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SMS
1042 Fort Street Mall
Suite 200
Honolulu, HI 96813
Ph: (808) 537-3356
Toll Free (877) 535-5767
Fax: (808) 537-2686
E-mail: info@smshawaii.com
Website: www.smshawaii.com

HAWAI'I HOUSING PLANNING STUDY, 2016

Prepared for the County of Kaua'i
Housing Agency

***SMS** Affiliations and Associations:*

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International Survey Research
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Prepared by SMS Research & Marketing Services, Inc.
November, 2016

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Website: www.smshawaii.com

November 7, 2016

Ms. Kanani Fu, Housing Director
County of Kaua'i, Housing Agency
Pi'ikoi Building
4444 Rice Street, Suite 330
Lihue, Hawai'i 96766

Dear Ms. Fu,

It is with pleasure that SMS Research presents this report of the findings of the Hawai'i Housing Planning Study 2016. We believe the results will be an important tool to be used by those who will plan for and develop new housing opportunities for Hawai'i's people in the remainder of this decade.

It has been a pleasure to serve you during the course of this project, and we look forward to working with you in the future.

Sincerely,

James E. Dannemiller
Executive Vice President

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Hawai‘i Housing Planning Study, 2016

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- Hawai‘i Tourism Office: George Szigeti, President and Chief Executive Officer; Daniel Nahoopii Director of Tourism Research

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- Mike Sklarz, President, Collateral Analytics

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I. INTRODUCTION

A. BACKGROUND

The Hawai'i Housing Planning Study (HHPS) series began in 1992. The studies have been conducted as comprehensive assessments of housing markets in Hawai'i. Results covering all four of Hawai'i's counties have been presented in a set of reports summarizing market conditions. Since 1997, HHPS has included a housing forecast to support housing planning. Over the years, HHPS studies have investigated a rotating list of housing issues. Some issues have remained part of the study and some have been replaced with issues of greater interest. In 2016, HHPS includes the influence of access to public transportation and/or mass transit on preferred housing location, special finance options for homebuyers, a new viewpoint on homelessness, the relationship between tourism and housing, and housing for special needs groups.

B. PURPOSE

The purpose of the 2016 HHPS report is to provide housing planners with contemporary data on the housing situation in Hawai'i to support planning activity. Reported here is research conducted from September 2015 through June 2016. Included in this study are housing demand, housing supply, housing prices, affordable housing, and needed housing units. Findings are fully supported by analysis of data from both the Housing Demand Survey and numerous secondary data sources including the United States Census Bureau and Hawaii's Department of Business, Economic Development & Tourism among others.

C. METHODS

The HHPS 2016 incorporates data from 11 data collection and analysis sources:

Housing Stock Inventory: An inventory of all residential housing units in the State was conducted in the first quarter of 2015. The inventory data were taken from real property tax files for each of the four counties. Results are presented in a separate report and have been incorporated in this report as needed. Beginning in 2011, the inventory expanded to include U.S. Decennial Census data and data taken from the American Community Survey (ACS). [1]

Housing Demand Survey: A statewide survey of more than 5,000 households was conducted in order to measure resident opinions and evaluations of current housing conditions, their plans to move to a new unit, their preferred characteristics of new units, their financial qualifications for purchase or rent, and household demographic information. Special topics for 2016 included: transportation and rail and special financing options.

Housing Forecast Project: In the past, forecasts were taken from a separate housing model developed in the nineties. In 2016, the forecasting method was updated to incorporate new and more relevant data. Forecasted elements included housing stock, housing demand, housing production, and housing prices, all to support an estimate of needed units by income group through the year 2025.

Housing Price Study: A study of housing prices, sales prices for ownership units and contract rents for rental units was conducted. Data were collected from several sources including rental unit advertisements, a national rent producer, several real estate data providers, the U.S. Department of Housing and urban Development (HUD), and the ACS.

Producers Survey: We conducted interviews with housing producers and planning department personnel in order to enhance understanding of issues related to housing development and to

[1] An excellent description of the American Community Survey appears at the U.S. Census website http://www.census.gov/acs/www/about_the_survey/american_community_survey/

review County data on scheduled housing unit production. Findings were used to develop estimates of short-run housing production.

Housing for Special Needs Groups Study: This study centered on interviews with service providers and advocates for people with special needs. The focus was on demand and supply of housing units to serve their particular needs. Statistical data were gathered to connect the needs data with housing planning and production in the next five years.

Homeless Study: Information wasdrawn from several HHPS components to generate a more comprehensive understanding of homelessness as a housing issue this year. Here too, the intention was to bring homelessness studies into the realm of housing planning and production.

Tourism Study: A separate study component covered the relationship between the number one industry in Hawai'i - tourism - and the residential housing market. To our literature search and secondary data gathering, we added specific questions to the Demand Survey and conducted a special survey of out-of-state property owners.

Hawaiians: To enable certain stakeholders to conduct more in-depth analysis, the number of surveys conducted with residents self-identifying as Hawaiian or Part-Hawaiian were increased in the Housing Demand survey and questions were added just for this group.

Military Housing: The role of military housing has always been included in the HHPS, at least in the inventory. In 2016 there was an effort to expand coverage of the influence of military housing on the residential housing market in Hawai'i.

Secondary Data: The study team gathered existing data and available forecasts to support each of the study elements discussed here. We also reviewed housing plans and production, government spending on housing, and comparisons with housing data in other states and municipalities.

Although they are not part of, but closely related to this study, there were two Fair Market Rent surveys conducted, one each for the Counties of Kaua'i and Maui during the course of HHPS 2016.

Each of these project elements is described in detail in the *HHPS 2016 Technical Report.*

D. REPORT STRUCTURE

The report begins with Section II, a description of current housing conditions in Hawai'i including demand, supply, and pricing of residential units over time. Section III discusses the forecasted demand for housing units --"Needed Units" -- from 2015 through 2025. Section IV covers the current housing issues for the year: transportation, sustainable affordability, military housing, tourism, homelessness, and housing for persons with special needs. Section V discusses recent housing production in the public sector.

An appendix presents support materials for major elements of the report and a glossary of terms.

II. CURRENT HOUSING SITUATION IN HAWAIʻI

The 2016 study of Hawaiʻi's housing market and housing needs begins with a review of the basic elements of housing planning. The report covers those issues in three major sections – housing supply, housing demand, and housing prices.

A. HOUSING SUPPLY IN HAWAIʻI

In this section we consider (1) housing stock, the current collection of housing units available to Hawaiʻi residents and migrants, and (2) housing production methods and the rate at which new housing units are added to the housing stock.

1. Current Housing Stock

According to the Census, there were 524,852 housing units in Hawaiʻi in 2014, up about one-half of one percent from 522,164 units in 2013.

A housing unit, as defined by the U.S. Census, is a unit that is available for occupancy as an owned or long-term rental unit. Some other types of housing units that have traditionally been excluded from total housing units include group quarters (prisons, dormitories, nursing homes, shelters, etc.) and commercial residential properties (hotels, condominium hotels, hostels, timeshare units, etc.), which are available only on a short-term rental basis.

Total housing units are further defined as either occupied or vacant. By Census convention, the number of **occupied housing units** is always equal to the number of households in the State. The total housing stock includes all occupied housing units plus vacant housing units available to the market (Table 1).

Residential housing construction fell after the Great Recession began in Hawaiʻi in 2008. Total housing units grew by about 5,600 units per year (2.2%) between 2009 and 2011. Between 2011 and 2014, growth slowed to 2,800 units per year – half what it was in the previous five years.

Table 1. Housing Unit Types by County, 2014

Housing Unit Types	County				State
	Hawaiʻi	Honolulu	Kauaʻi	Maui	
Total Housing Units	83,904	339,830	30,112	71,006	524,852
Available Housing Units (Housing Stock)	69,458	321,661	24,955	61,446	477,520
Occupied Housing Units	64,586	310,141	22,395	53,177	450,299
Vacant and Available	4,872	11,520	2,560	8,269	27,221
Units Not Available (long-term vacancies)	14,446	18,169	5,157	9,561	47,333
Vacant for seasonal use	11,008	10,732	4,270	7,044	33,054
Vacant for agricultural use	25	32	30	6	93
Other vacant	3,413	7,405	857	2,510	14,185
Percent occupied and vacant & available	82.8%	94.7%	82.9%	86.5%	91.0%
Percent unavailable units	17.2%	5.3%	17.1%	13.5%	9.0%
Percent vacant for seasonal units	13.1%	3.2%	14.2%	9.9%	6.3%
Percent other vacant	4.1%	2.2%	2.8%	3.5%	2.7%

Source: ACS 2014 5-yr Estimates, Table B25004 and DP04

a. Housing Stock Size

Among the 524,852 housing units in Hawai'i in 2014, 477,520 housing units were available to the resident housing market; 450,299 were occupied housing units and 27,221 were available vacant units.

About 47,333 housing units (9.0%) were not part of the housing stock in 2014. Of those, nearly 70 percent were vacant for seasonal, recreational, or occasional use. A very small number (93) were vacant and held off the market for use by migrant agricultural workers.

Units that are vacant for seasonal, recreational or occasional use (seasonal) are the largest component of Hawai'i's unavailable housing units. There were 33,054 of them in 2014. That was 44.4 percent of vacant housing units and 6.3 percent of all housing units in the State. This was also an increase of 23 percent from the 2011 HHPS. We will return to this subject again in the visitor industry impact section of the report.

Finally, 14,185 housing units were classified "other vacant." This is a catchall category that includes units vacant for reasons other than those specifically defined in Census documents. In 2014, Hawai'i's other vacant units made up 30 percent of vacant and unavailable units and 2.7 percent of total housing units. The American Housing Survey defines "other vacant" as *units held for settlement of an estate, units held for occupancy by a caretaker or janitor, and units held for personal reasons of the owner.*[2] The definition includes housing units that are being held off the market while a decision is made regarding their status. Types of decisions include litigation, settling estates, involvement in other legal proceedings, units held while they are being refurbished or rebuilt, or while owners are deciding what to do with their vacant property.

Hawai'i is in the top quartile among states losing housing units to vacancies. We ranked 12th for percent of total housing units held for seasonal, recreational, and occasional use in 2014. Only two states ranked higher than the County of Kaua'i with respect to the percent of total units held off the market for seasonal use.

Across the State, there were major differences in the percent of total housing units counted as housing stock. Over 17 percent of the total housing units in both Kaua'i and Hawai'i counties were unavailable. This compares to roughly 13 percent for the County of Maui and 5.3 percent for the City and County of Honolulu.

b. Trends in Housing Stock, 2000-2014

A brief overview of results taken from the 2011 and 2016 housing studies will highlight the changes to the housing stock in recent years. Table 2 presents the data summary.

Leading up to Table 2, we note that between 2003 and 2007, Hawai'i added 31,639 housing units to its total. Between 2007 and 2011, 14,895 were added. Between 2011 and 2014, 7,468 units were added to total housing units.[3] Clearly, annual housing production slowed dramatically in the first half of the present decade.

Housing stock grew at a faster rate than total housing units before 2011 (6,100 units per year) and slowed to 1,115 units per year between 2011 and 2014. The drop in the growth rates matched a relatively sharp rise in the number of new seasonal units that appeared during that period -- from 564 units per year before 2011 to 1,163 units per year thereafter. That caused a drop in the number of vacant and available housing units (2,334 units per year before 2011 to -314 per year afterward).

Continuing a pattern set in the last decade, more multi-family units were produced than single-family units.

[2] American Housing Survey 2013, Subject Definitions, Appendix A. Definitions and Index for Table Numbers.

[3] DBEDT Data Book 2014, Table 21.20, Housing Units by County: 2000 to 2014.

Table 2. State of Hawai'i, Changes in Housing Stock, 2011-2014

	2011		2014		Change 2011-2014	
	Number	**Percent**	**Number**	**Percent**	**Number**	**Percent**
Total Housing Units	**516,394**	100%	**524,852**	100%	**8,458**	1.6%
Single Family	278,596	54%	282,060	54%	3,464	1.2%
Multi-Family	237,798	46%	242,792	46%	4,994	2.1%
Total Available Housing Stock	**473,676**	92%	**477,520**	91%	**3,844**	0.8%
Total Occupied Housing Units	**445,513**	86%	**450,299**	86%	**4,786**	1.1%
Owner Occupied Units	261,516	51%	257,121	49%	-4,395	-1.7%
Renter Occupied Units	183,997	36%	193,178	37%	9,181	5.0%
Total Vacant Units	**70,881**	14%	**74,553**	14%	**3,672**	5.2%
Vacant Available	28,163	5%	27,221	5%	-942	-3.3%
For Rent	19,560	4%	18,704	4%	-856	-4.4%
Rented, not occupied	2,086	0%	2,418	0%	332	15.9%
For Sale only	4,913	1%	4,085	1%	-828	-16.9%
Sold, not occupied	1,604	0%	2,014	0%	410	25.6%
Vacant Unavailable	42,718	8%	47,332	9%	4,614	10.8%
Seasonal Use	29,564	6%	33,054	6%	3,490	11.8%
For Migrant Workers	162	0.03%	93	0.02%	-69	-42.6%
Other Vacant	12,992	2.5%	14,185	2.7%	1,193	9.2%

Source: ACS Table B25004, S2504, and S1101

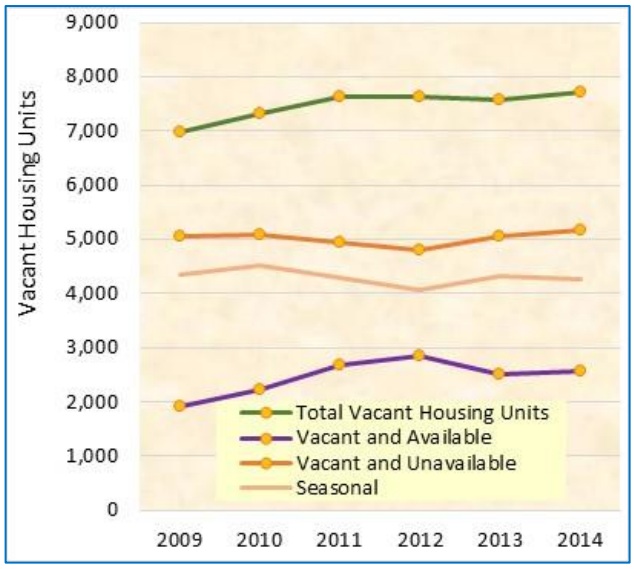
Table 2 shows that growth in housing stock (units available to the local housing market) was less than one percent over four years. Growth in occupied housing units was not much higher at 1.1 percent over four years.

The growth in renter occupied units (5.0%) offset the loss of owner occupied units (-1.7%) and the net gain in occupied housing units ended up at 1.1 percent for the 4-year period.

The larger changes were in vacant units categories. The State lost 942 vacant and available housing units between 2011 and 2014. A drop in vacant and available units usually means the market is tighter, with lower inventory, less time between listing and sale or rent, and higher prices.

On the other hand, the vacant and unavailable housing stock went up by 4,614 units in those last four years. That was an increase of almost 11 percent for the period.
The construction slowdown held back growth in occupied units, but the most important changes were those in vacant units (Figure 1).

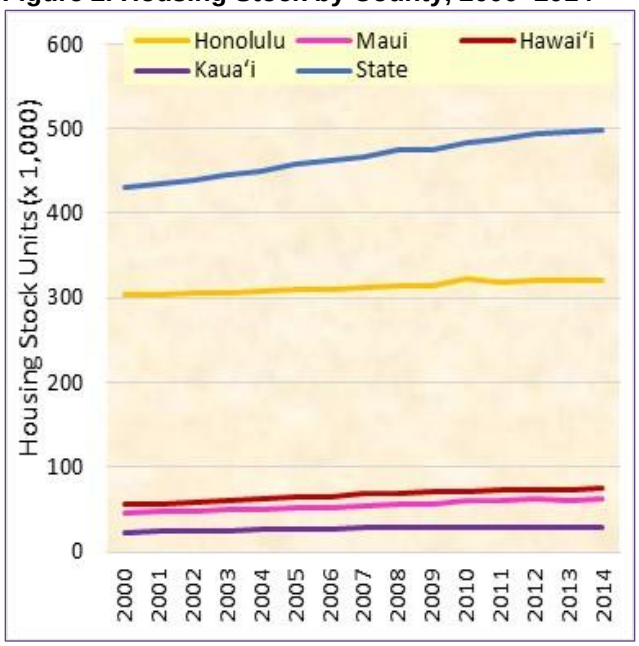
Figure 1. Vacant Housing Units, County of Kaua'i, 2009-2014



Source: ACS Table B25003, 5-yr estimates.

Over the past 15 years, the average annual increase in housing stock (occupied plus vacant and available housing units) was about 1 percent per year (Figure 2). Housing stock in the State of Hawai'i increased by 16 percent in the years between 2000 and 2014. The County of Kaua'i added 1.4 to the total housing stock each year.

Figure 2. Housing Stock by County, 2000–2014



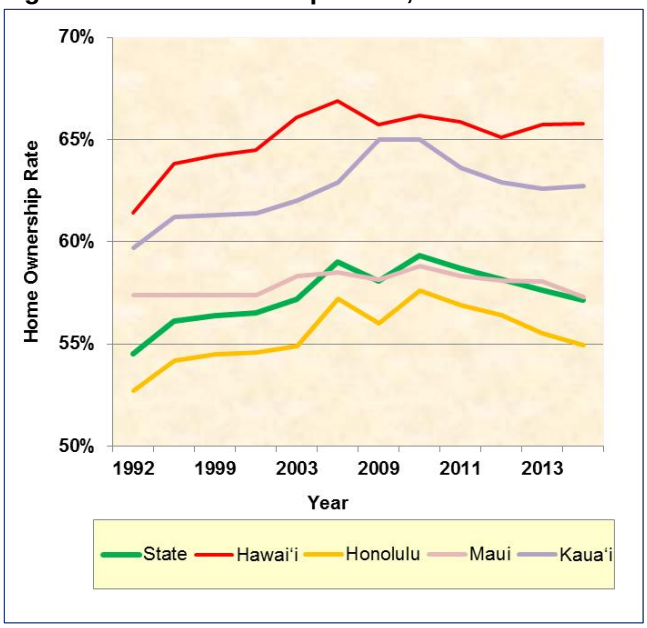
Source: SMS calculations from *State of Hawai'i Time Series Data Book* and ACS Tables in Series B25000.

c. Homeownership

Homeownership rates have fallen across the nation since the Great Recession and Hawai'i was no exception.[4] Some experts feel the low homeownership rate is a sign that the housing market recovery is not yet complete. High prices, low inventories and a lack of confidence in the market have slowed sales, especially in high-priced markets like Hawai'i's. More important, the impact of the slow recovery falls heaviest on first time buyers. It is their entry to the market that boosts the homeownership rate.

[4] American Community Survey rates are different from those of the Federal Reserve Bank. The Federal Reserve Bank of St. Louis' Federal Reserve Economic Data (FRED) shows the rate climbing after 2011. ACS has it continuing to fall as in the rest of the nation. We will follow ACS data.

Figure 3. Homeownership Rates, 1990-2014



Source: U.S. Census 1990-2005; ACS, 2005-2014. An atypical one-year drop in 2007 has been smoothed here

The decline in rates of homeownership is a recent phenomenon. Between 1990 and 2010, while the housing stock was growing, homeownership rates also grew (Figure 3). Homeownership rose during the market run-up in the early nineties and fell during the late nineties. It rose again during the last housing market boom to a high of 60 percent in 2006. Homeownership in Hawai'i has been falling steadily since that time. In 2014, the Census reports it at 57.1 percent Statewide. That was just a little higher than the 2000 level. Figure 3 shows state and county homeownership rates as they drifted downward from a high in 2005.

d. Shelter Cost & Shelter-to-Income Ratios

High-priced housing markets like Hawai'i's often have high ratios of shelter cost to household income. Households with shelter-to-income (STI) ratios greater than 30 percent are said to be cost burdened, and those with ratios higher than 50 percent are said to be severely cost burdened.

In 2011, about 51 percent of Hawai'i residents were paying less than 30 percent of their monthly income for shelter. At that level, households can use 70 percent of their income for necessities and are likely to qualify for mortgage loans.

In 2016, the proportion of Hawaii households paying less than 30 percent of household income toward shelter costs (rent or mortgage plus utilities) was up to 58 percent. We had 37 percent paying 30 to 39 percent and 7 percent with STI ratios of between 40 and 50 percent. Our severely cost burdened households were at 18 percent.

The percent of households with an STI ratio of more than 30 percent is often used as an indication of housing affordability. It can be compared across time and geographic areas. Hawai'i's STI ratios are higher than most of the nation. In 2014, Hawai'i's 39.1 percent over 40 percent STI was the third highest in the nation, exceeded only by Florida and California.

Table 3. Shelter-to-Income Ratio by County, 2016

Shelter Payment as % of HH Income	County				State
	Hawai'i	Honolulu	Kaua'i	Maui	
None	27.0%	21.3%	20.8%	15.0%	21.4%
Less than 30%	37.2%	37.1%	36.8%	35.2%	36.8%
30 to 40%	10.3%	11.4%	10.8%	12.4%	11.3%
40 to 50%	4.0%	7.0%	5.6%	7.2%	6.5%
More than 50%	15.2%	17.4%	20.7%	24.2%	18.0%

Source: Housing Demand Survey, 2016.
Base is households with shelter payments greater than or equal to $0.

STI ratios usually rise slowly over time and have changed very little in Hawai'i in recent years.[5] STI ratios for rented households are higher than are those for homeowners and rise a bit faster over time.

The depressed housing market of the nineties held prices and rents in check while the burgeoning economy raised household incomes. Housing prices soared between 2003 and 2006

[5] See Table A-10 and A-11 in the Appendix for trend data.

and pushed the number of renter households paying more than 40 percent of their income for shelter to 43 percent in 2006, 45 percent by 2011, and 46 percent in 2014.[6]

The shelter-to-income picture shows some important differences across counties (Table 3) that suggest different levels of housing affordability across the State. In Honolulu County, the percentage of households paying less than 30 percent of their income for shelter was 37.1 percent, up slightly from 35.7 percent in 2011. The percentage paying more than 40 percent, on the other hand, decreased 6.2 percent between 2011 (30.6%) and the present (24.4%).

e. Crowding and Doubling-up

Crowding and doubling-up are frequently used measures of housing condition. Both are accepted as indicators of housing issues. They are thought of as measures of pent-up demand for housing and as a sign that household formation may be constricted.

We sometimes hear that Hawai'i's doubling-up rate is a cultural phenomenon caused by our propensity for extended family living. Our relatively large household size supports that idea. However, survey questions measured doubling up for financial reason only and show substantial doubling rates for all ethnic groups.

In past studies, crowding was measured using the Census method (the ratio of persons in the household to rooms in the unit they occupy). This year we are switching to the persons per bedroom definition, which we believe is the more appropriate measure for housing planning.

The doubling-up measure is a measure that includes having more than two generations in the household, having unrelated individuals in the household, or having same-generation relatives in the household. In all cases, the Housing Demand Survey shows that doubled-up persons are in the household because they cannot afford to live elsewhere.

Table 4 shows HHPS crowding and doubling-up data for the State and each of the counties.

Table 4. Crowding, State and Counties of Hawai'i, HHPS 1992 through 2016

	Year	Total Households	Crowded[a]	Doubled Up[b]	Crowded and/or Doubled Up[c]
Honolulu	1992	247,349	23.2%		32.0%
	1997	272,234	10.6%		27.2%
	2003	292,003	10.1%	10.0%	17.6%
	2006	303,149	8.1%	9.7%	15.2%
	2011	310,882	13.3%	13.8%	22.9%
	2016	317,459	11.4%	11.9%	21.0%
Maui	1992	34,266	26.8%		25.9%
	1997	39,252	10.4%		24.8%
	2003	43,687	11.0%	8.7%	17.3%
	2006	49,484	7.7%	9.6%	15.3%
	2011	54,132	10.7%	13.0%	19.2%
	2016	55,059	9.8%	14.1%	21.4%
Hawai`i	1992	39,789	18.7%		26.0%
	1997	46,271	7.9%		24.3%
	2003	54,644	7.0%	9.3%	14.4%
	2006	61,213	6.9%	11.2%	15.9%
	2011	67,096	8.4%	11.3%	17.2%
	2016	66,989	7.4%	11.1%	16.0%
Kaua`i	1992	16,981	17.4%		26.3%
	1997	18,817	9.1%		25.4%
	2003	20,460	6.0%	12.5%	16.1%
	2006	21,971	6.6%	11.9%	15.5%
	2011	23,201	10.5%	11.7%	18.1%
	2016	23,369	8.9%	11.5%	19.2%
State	1992	338,385	22.2%		30.3%
	1997	376,574	10.2%		26.5%
	2003	410,794	9.6%	10.0%	17.1%
	2006	435,818	7.8%	10.0%	15.3%
	2011	455,311	12.1%	13.2%	21.4%
	2016	462,876	10.5%	12.0%	20.2%

Source: Housing Demand Survey, 1992, 1997, 2003, 2006, 2011, 2016.
a. Based on more than one person per room for 1992-2011, then 2 persons per bedroom for 2016.
b. More than one family group in a single housing unit (See Glossary).
c Before 2003, question asked if a household was crowded or doubled up. After 2003, HHPS measured crowded and doubled up separately and then combined them.

[6] ACS, Table B25070, 2006-2014.

The 1992 study followed a major price run-up during which high prices kept many would be buyers from entering the market. The study conducted in 1997 was nearing the end of a very long market recovery during which incomes were catching up with prices and crowding was notably lower than in 1992. The 2003 figure was measured at the start of the next price run-up.

By 2006, Hawai'i was at the peak of the largest price run-up in its history. During that period, crowding and doubling remained low. In 2008, the Great Recession began in the housing market and the effects were dramatic. Yet, by 2011, crowding seemed to have abated and evidenced a slight decrease from 2006. In 2016, levels of crowding appear to be on the rise again, although the increase from 2011 is not significant.

Table 4 also shows that crowding and doubling-up behave differently in each of the counties. In general, the rates are most volatile in the City and County of Honolulu. Maui and Kaua'i have similar profiles and are typically less crowded than O'ahu. Hawai'i County has been the least volatile market. The pattern of change in crowding and doubling-up is generally the same as other counties, but the rate of change is always smaller than for the other counties.

Hawai'i's crowding rate, as measured by national standards, is always among the highest. For 2016, Hawai'i was ranked first in crowding of owner occupied units and second highest for renter-occupied units, behind California.

f. Age and Condition of Units[7]

Housing planners must take into consideration both the age and overall condition of units in the residential housing stock. As compared to other cities in the United States, Hawai'i's housing stock is relatively young and in good condition overall, suggesting that housing planning should focus on matters other than the age and condition of existing residential units.

Statewide, the median year built for residential housing units was 1978, which is slightly younger than the national median build year of 1977. Among the Counties, Maui's units are the oldest with a median build year of 1964 followed by Honolulu County (1975), Kaua'i County (1984), and Hawai'i County (1986).

Statewide, very few of Hawai'i's housing units are in poor condition or substandard as defined by the US Census Bureau (lacking complete plumbing and/or kitchen facilities). According to the 2014 5-year estimate from ACS, less than one percent of occupied housing units Statewide have incomplete plumbing facilities, and 1.8 percent have incomplete kitchen facilities. Across the Counties, the rate of incomplete plumbing facilities ranges from a high of 2.0 percent in Hawai'i County to a low of 0.4 percent in Honolulu County. The Counties also report a low incidence of incomplete kitchen facilities ranging from a high of 2.6 percent in Hawai'i County and a low of 1.3 percent in Kaua'i County.

Our housing units are smaller than are those in other American housing markets. For the State and all of the Counties, the mean number of rooms per occupied residential housing unit was 4.9. Nationally, the average housing unit had 5.8 rooms in 2014. Despite Hawai'i's housing stock having fewer rooms than the national average, other major housing markets in the country report average room counts lower than Hawai'i's (New York, 4.2; San Francisco, 4.4; Boston, 4.5).

2. Housing Production

Hawai'i's housing stock, those units available to residents, was 368,122 units in 1990 and 477,520 units in 2014. That is an increase of 109,398 units (29.7%) over 25 years. That amounted to about 4,376 units per year and an annual growth rate of 1.1 percent.

a. Housing Stock Growth, 1990-2014

If population rises and household formation proceeds normally, additional housing units will be needed to house Hawai'i's residents.

[7] United States Census Bureau (2014). ACS 5-Year Estimates, 2010-2014, Table S2504.

Housing planners typically measure housing production first by tracking residential building permits and then measuring total units added to the stock. Table 5 shows the number of building permits approved by county planning departments over the last 24 years.

Table 5. Total Building Permits Issued, Counties and State of Hawai'i, 1990 – 2014

	County				State
	Hawai'i	Honolulu	Kaua'i	Maui	
1990	4,720	17,123	2,312	3,534	27,689
1995	2,707	11,956	1,054	1,514	17,231
2000	3,254	12,443	1,083	2,294	19,074
2005	5,436	15,174	882	2,348	23,840
2010	2,756	14,254	171	1,016	18,197
2014	4,811	18,541	187	1,267	24,806

Source: *State of Hawai'i Time Series Data Book 2005-2014 Table 21.01.*

The number of building permits approved in a given year is an indicator of the demand for new housing units. While the annual count may be affected by a host of other considerations[8], it is unlikely that building applications will be made or approved without some expectation that there will be buyers for the units.

The historical figures in Table 5 support that proposition. They rise and fall with the market. Large permit counts in 1990 and 2005 reflect boom markets. Low counts in 1995 and 2010 are consistent with the low demand in those years. The 24,806 permits issued in 2014 suggest that demand has risen again.

Authorized permits rise and fall with the local housing market. Added units lag permits by about a year. In times of high market activity, landowners and developers respond to higher demand and higher house prices by supplying new units. The lag shown after 2000 reflects the time needed to bring units to market. That finding is inconsistent with the often-heard claims that supply lags demand by substantial margins – up to ten years - in Hawai'i. However, those claims usually refer to the time required to start larger projects that may require land use or zoning changes and would not be included in the building permit data.[9]

The present data may underestimate the lag, however. Housing stock estimates (as well as numbers of added units) are in part an artifact of methods used to produce the Census estimates. It appears that the U.S. Census Bureau, in developing annual housing unit estimates, uses data taken from authorized building permits. Therefore, the housing stock estimates we are using are defined, in part, by the permit counts.

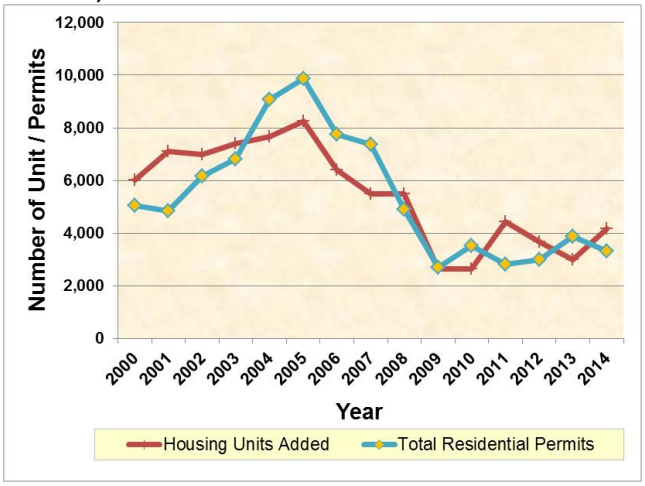
Between 1995 and 2004, housing production in Hawai'i was at an all-time high and nearly 67,000 housing units were built throughout the State. Between 2005 and 2009, housing production dropped sharply, primarily due to the Great Recession. While the State's economy has improved markedly since then, housing production remains low. In the past four years, fewer than 20,000 housing units have been constructed in Hawai'i, despite the addition of about 50,000 new residents in about 15,000 households.

Figure 4 combines the sources of information on housing stock growth. In 2014, there were 3,066 residential building permits issued for new housing units. In that same year, 2,688 housing units were added to Hawai'i's housing stock, which means that 88 percent of the units permitted were actually built. This is a vast improvement over 2008 when 4,115 permits were issued but only 1,323 housing units constructed (32%).

[8] These include availability of construction financing, expectations for home mortgage financing, current zoning situations, land use issues, infrastructure condition and financing, affordable housing requirements and other regulatory issues, project readiness, and other considerations that affect the scheduling of permit applications.

[9] The data may underestimate the lag because housing stock estimates and added units are an artifact of methods used to produce Census estimates. Census uses authorized building permits to estimate housing units, so housing stock estimates are adjusted to the permit counts

Figure 4. Building Permits & Added Units, State of Hawai'i, 2000-2014



Source: Permits from Census Table 2au: New Privately Owned Housing Units Authorized. Added units from ACS housing unit data and Housing Model 2016 estimates.

b. Impediments to Production

Hawai'i's housing market is supply inelastic[10]. An increase in demand does not lead to an increase in supply in a timely or efficient manner. That leads to higher prices and affordability problems. Previous versions of the HHPS and other studies have identified major impediments to the development of housing in Hawaii including the lack of "reasonably priced", developable land; lack of major off-site infrastructure; high development costs; government regulations; community opposition; and growing environmental requirements.[11] We briefly recap the major sources of the supply problem below.

Geographic Limitation: Hawai'i lacks sufficient land near its major population centers. Consider a fifty-mile circle around the central business district of the largest city in each of America's fifty states. Now subtract all open water or wetlands within the circle and all lands with slopes in excess of five percent (Rose, 1989). As an island state, comprised of mountains rising from the ocean floor, Hawai'i ranks lowest in terms of the percentage of remaining available land (Saiz, 2010). Geography becomes more constraining over time. As an area is developed, there are ever fewer acres of undeveloped land. Supply is attenuated and prices rise. (Hilber and Robert-Nicoud, 2010).[12] Geographic constraints reduce housing supply by limiting investment in housing (Paciorek, 2011).

Lack of Major Off-Site Infrastructure: The lack of major off-site infrastructure to support development is cited as a major impediment to housing development. The Final Report & Recommendations of the Affordable Housing Advisory Committee, April 2006 notes that the current infrastructure capacity is a significant barrier to providing more housing units in the urban core of Honolulu. All forms of public infrastructure are in dire need of maintenance, up-grade and new installation. Roads, sewer, water, drainage, and schools have historically been the responsibility of government to construct. Many of the required infrastructure improvements have been passed on to the developer, adding to the price of a house. A Joint Legislative Housing and Homeless Task Force encouraged creative, innovative and cost-effective ways such as tax increment financing or the establishment of improvement districts to finance the construction of offsite infrastructure, as well as the appropriation of capital improvement project funds.[13]

Construction Costs: In many markets, construction costs are a major part of the price of a new house. There are large differences in construction costs across the U.S., and Hawai'i's construction costs are high. Rose and La Croix (1989), however, showed that the difference in construction costs was not nearly enough to

[10] A market situation in which any increase or decrease in the price of a good or service does not result in a corresponding increase or decrease in its supply.

[11] State of Hawaii, HHFDC, Consolidated Plan for Program Years 2015 Through 2019, May 15, 2015

[12] Hilbert and Robert-Nicoud reported that a highly significant independent variable in their analyses of housing prices in U.S. cities was the ratio of acres of developed land to acres of developable land.

[13] Joint Legislative Housing and Homeless Task Force, prepared by staff of the Senate Majority Office, with contributions from the House Majority Staff Office, "Report of the Joint Legislative Housing and Homeless Task Force Pursuant to Act 196, Session Laws of Hawaii 2005," January 2006

explain the difference in housing costs across markets. Gyourko and Saiz (2006) also reported construction costs were not significantly related to prices. The larger contributors to building costs were unionization, local wages, local topography, and the regulatory environment. Combined with Hawai'i's highly volatile housing market, however, construction costs can affect individual projects. Construction costs can rise sharply in construction boom periods and make tight-margin projects like workforce housing units very difficult to complete.[14] The cost of construction has been impacted by the high cost of litigation and insurance. The Affordable Housing Advisory Committee notes that "everyone involved from accountant to mason contracts have insurance cost that go into the price of their goods and services. They include: property, general liability, professional liability, excess liability, unemployment, health, auto, workers comp, business interruption and even terrorism to name a few."[15]

Government Regulations: Hawaii's housing markets are more regulated than most other housing markets in the nation. Honolulu's score on the Wharton Residential Land Use Regulatory Index (Wharton Index[16]) is the highest in the nation and David Callies (2010) has painstakingly described the plethora of individual regulations that affect housing development in the State. Every housing conference since 2000 named regulations as the most serious impediment to housing production in Hawai'i and repeatedly called for streamlining regulations in their reports (City & County of Honolulu, 2011). In August 2007, Hawaii accepted an invitation from HUD to join the "National Call to Action for Affordable Housing Through Regulatory Reform" initiative. A statewide Affordable Housing Regulatory Barriers Task Force, comprised of representatives from the counties, business, labor, developers, architects, non-profit service providers, the state, and the legislature, was convened to address regulatory barriers to affordable housing. The task force noted that *"in the context of building homes that are affordable, government regulations often work against the goal of delivering more affordable housing. Although government policies and regulations are often intended to control or direct growth, target resources, and prioritize areas of importance, the unintended consequence is often that these regulations add to the cost of building affordable homes. Many regulations are in place to ensure health and safety and to protect natural resources. However, all regulation has some direct or indirect effect on the supply and cost of housing.*[17] The task force identified fourteen regulatory barriers including the duplicative and lengthy land use entitlement process, lack of consistency and synergy in state and county agency reviews, impact fees and exactions, fiscal policy, and administrative processes.

Political Ideology: A few researchers have studied the impact of politics on land use regulation and housing prices. Matthew Kahn (2011) found that cities under the control of liberal governments do not grant as many building permits as do cities under conservative governments or mixed control. Solé-Ollé and Viladecans-Marsal (2013) found that communities under the control of liberal governments commit fewer acres of land to urban development than do those under the control of less liberal parties.[18] The resulting regulation is associated with less housing construction and higher house prices.

Income Inequality: The most comprehensive work on the relationship between income inequality and housing prices is Matlack and Vigdor's (2006) study for the National Bureau of Economic Research. They used American Housing Survey data to test the possibility that a rise in income inequality raises the cost of goods

[14] Massive 'Aiea workforce housing condo project on hold. (2016) Hawai'i News Now, June 2016. http://www.k5thehomteam.com/story/32389776/massive-aiea-workforce-housing-condo-project-on-hold.

[15] Mayor's Advisory Housing Advisory Committee, City and County of Honolulu, "Final Report & Recommendations," April 2006

[16] Gyourko, Saiz, and Summers, 2007. Index scores were not calculated for other counties in Hawai'i.

[17] State of Hawaii, Office of Governor Linda Lingle, "Report of the Governor's Affordable Housing Regulatory Barriers Task Force," December 2008

[18] Their work is important addition to the field despite many measurement issues.

(including housing) consumed by the poor.[19] They found that, in markets with normal supply elasticity, an increase in income among other groups, including the rich, could raise housing consumption among the poor (a rising tide lifts all boats). In markets characterized by supply inelasticity, a rise in income among the rich will lead to higher prices, lower consumption among the poor, and crowding. The phenomenon has been studied by others including Holt and Greenwood (2012), DeWilde and Lancee (2013). The latter source replicated Matlack and Vigdor and added that higher income inequality is associated with lower housing quality for both owners and renters.

Recently, Green and Shaheen (2014) concluded that housing markets with high prices, high volatility, and short supply are now dysfunctional. Homeowners and their allies[20] (Hilber et al., 2013) try to protect their investments by regulating the industry. In doing so, they drive housing prices up; making it difficult for homeowners to move or to sell their homes, further constraining supply. The resulting tight markets lose the ability to sort buyers to units at appropriate prices.

Kolko (2013b) tied rising housing prices to income inequality and to the growing disparity between the most and least affordable housing markets in America. He notes prices rise faster in less affordable markets, driving migration from unaffordable to affordable areas. Typically, lower-income families move. In his research on California Kolko (2013a) showed that the state had been losing population (but not jobs). As the trend continues, Kolko (2014) says, income inequality will cause "tensions between the haves and the have-nots, which often get played out at the local level, and these tensions have erupted into fights over housing affordability and public services." We might add homelessness and vacation rental units to the list.

Where does Hawai'i fit into all of this? Kolko (2013b) found that Honolulu had a 74 percent affordable rating[21] and a 12.8 percent change in housing prices in 2012 – both high. However, he concluded that Honolulu did not fit his theory because it had the most unaffordable housing in the nation and a not-too-bad income inequality score (11th). He would still predict population loss for Honolulu.

Tourism: The early literature covers benefits of tourism for local economies, as well as some of tourism's disadvantages. Recently, two factors, (a) the growth of demand for an authentic community experience, and (b) easy rental unit marketing made possible by better online accommodations booking, have increased the number of rent-by-owner units outside of visitor destination areas. We shall return to this issue later in the report.

B. HOUSING DEMAND IN HAWAI'I

1. Historic Demand

a. Population and Growth Rates

Demand for housing units begins with population growth. Population grows when natural increase (the excess of births over deaths) and net in-migration combine and when new households are formed from older ones. When the number of households grows, new housing units are required to house them.[22] Table 6 shows population change since 1990.

During the nineties, Hawai'i's population growth rate of 8.8 percent was lower than in the previous decade. Between 2000 and 2010 population growth increased, led principally by

[19] In other words, will a rise in the income of someone else's household worsen your own consumption outcomes (your income held constant)?

[20] Primarily preservationists and environmentalists.

[21] Percent of monthly average wage needed to pay a median mortgage.

[22] Standard demographic texts cover the topic in detail. Imhoff et al. (see Appendix H) cover the impact on housing modeling. The Hawai`i Department of Business, Economic Development and Tourism reports figures on the components of population growth. See *Hawai`i Data Book*, annual.

net in-migration, to 10.1 percent for the decade, about one percent per year.

In the last five years, population growth has been 7.4 percent or approximately 1.5 percent per year. It appears that the rate of growth is accelerating slightly as the decade proceeds, and that the major component of change is still net in-migration.

Population growth is consistent with economic recovery. In the process of household formation, population growth is translated into household growth and then to increased housing demand.

Table 6 also shows that population growth has taken very different paths for each county. Population growth in Kauaʻi County has been about half that seen in Hawaiʻi and Maui counties over the last three decades. Kauaʻi's population grew 13 percent from 1990 to 2000 and 12 percent growth between 2000 and 2010. In the past five years, population in Kauaʻi County has increased by 9.5 percent.

Table 6. Total Population, 1990-2015

Year	County				State
	Hawaiʻi	Honolulu	Kauaʻi	Maui	
1990	121,572	838,534	51,676	101,709	1,113,491
1992	131,630	863,959	54,439	108,585	1,158,613
1997	144,445	886,711	57,712	122,772	1,211,640
1999	146,970	878,906	58,264	126,160	1,210,300
2000	149,095	875,061	58,511	128,899	1,211,566
2003	156,340	888,026	60,061	134,871	1,239,298
2004	160,170	894,406	61,070	137,136	1,252,782
2005	164,887	900,340	62,759	138,131	1,266,117
2006	169,205	898,074	62,509	138,983	1,268,771
2007	169,082	904,783	62,162	140,507	1,276,534
2008	172,464	903,231	62,800	141,778	1,280,273
2009	172,370	902,564	63,033	142,274	1,280,241
2010	180,362	936,984	65,490	150,785	1,333,591
2011	182,997	944,287	66,306	152,964	1,346,554
2012	185,399	955,215	67,113	155,003	1,362,730
2013	187,044	964,678	67,872	156,704	1,376,298
2014	189,382	975,690	68,745	158,887	1,392,704
2015	196,428	998,714	71,735	164,726	1,431,603
% Chg. 1990-2000	22.64%	4.36%	13.23%	26.73%	8.81%
% Chg. 2000-2010	20.97%	7.08%	11.93%	16.98%	10.07%
% Chg. 2010-2015	8.91%	6.59%	9.54%	9.25%	7.35%

Sources: 1990 Census, 2000 Census, ACS 2003-2014; PEPANNRES 2015.

b. Components of Population Growth

Going beyond the simple growth patterns of the last twenty years in Hawaiʻi provides information that is relevant to housing analysis and planning. This kind of growth pattern tends to increase demand at the lower end of the market. Many immigrants from the Pacific, for instance, have fewer economic resources, less education, and fewer job skills than the current population. It takes time for them to gain the economic footing required to compete in Hawaiʻi's housing market.

Table 7 summarizes growth factors since 1990.

Net change in Hawaiʻi's population is the population in the final year of a decade minus the population in the final year of the previous decade. Net migration is the number of people moving to the State minus the number of people moving out of the State. Natural increase is births minus deaths.

Hawaiʻi's population grew faster in the last decade than it did in the nineties. The State added an average of about 10,000 persons per year in the nineties, 15,000 per year in the last decade, and about 6,000 per year since 2010.

In each decade since the nineties, natural increase contributed more to the population growth than did net migration. In each decade, however, the difference was smaller. That is, net migration, while still the lesser of the two sources of population growth in Hawaiʻi, is steadily becoming more important.

For the State as a whole, the out-migration exceeded in-migration and reduced the population by almost a thousand persons per year during the nineties. In the decade between 2000 and 2010, in-migration was much higher than out-migration causing population growth in excess of 5,500 persons per year. So far this decade the excess of in-migrants has produced a net 6,200 persons per year.

The steady gain in net migration over natural increase at the State level is almost solely due to the components of change analysis for the City and County of Honolulu. Other counties do not

exhibit the same pattern of growth. Honolulu lost almost 47,000 people to net out-migration in the nineties. Between 2000 and 2010, Honolulu's net migration accounted for 11 percent of total population growth. So far in this decade, 33 percent of the increase in Honolulu's population is due to the excess of in-migration.

This kind of growth pattern tends to increase demand at the lower end of the market. Many immigrants from the Pacific, for instance, have fewer economic resources, less education, and fewer job skills than the current population. It takes time for them to gain the economic footing required to compete in Hawai'i's housing market.

Table 7. Components of Population Change, Hawai'i, 1990-2014

	Net Change	Natural Increase	Net Migration
1990 to 2000			
Hawai'i	28,360	10,477	17,883
Honolulu	39,925	86,733	-46,808
Kaua'i	7,286	4,601	2,685
Maui	27,737	11,301	16,436
State	103,308	113,112	-9,804
2000 to 2010			
Hawai'i	36,402	9,914	26,488
Honolulu	77,051	68,958	8,093
Kaua'i	8,628	3,517	5,111
Maui	26,683	10,729	15,954
State	148,764	93,118	55,646
2010 to 2014			
Hawai'i	8,973	3,723	5,250
Honolulu	39,631	26,529	13,102
Kaua'i	3,404	1,279	2,125
Maui	8,249	3,815	4,434
State	60,257	35,346	24,911

Source: DBEDT Data Book, 2009, Table 1.59, 2010, Table 1.56, and 2014, Table 1.59.

c. Households and Household Size

We generally measure household formation in terms of the increase in households reported by the U.S. Census. Assuming a constant household size, the number of households should increase at a rate similar to that of the total population. Slower household formation may be due to social change, economic recession, or a shortage of new housing units. Some would-be movers will remain housed within existing households. This will result in an increase in average household size. In the last ten years, Hawai'i's statewide average household size increased by 2.8 percent from 2.88 persons per household to 3.11.

Table 8 presents the number of households for the State and counties since 1990, along with the DBEDT forecast to 2040.

Table 8. Number of Households, 1990-2040

	County				State
	Hawai'i	Honolulu	Kaua'i	Maui	
1990	41,461	265,304	16,253	33,145	356,163
1995	49,282	275,877	18,967	38,326	382,452
2000	52,985	286,450	20,370	43,507	403,312
2005	60,396	300,557	21,997	48,393	431,343
2010	67,096	304,827	23,240	51,281	446,444
2015	70,668	311,136	24,569	54,437	460,811
2020	77,902	316,706	25,902	58,635	479,144
2025	84,228	320,808	27,307	62,833	495,176
2030	90,554	323,442	28,788	67,031	509,815
2035	96,304	324,608	30,349	71,229	522,491
2040	102,008	324,307	32,056	75,428	522,798

Source: Decennial Census 1990, 2000; ACS 1-year estimates 2005, ACS 5-year estimates 2010; DBEDT 2040 Projections 2015-2040

In Table 9, we see all three of the population growth factors related to housing demand: total population, households, and household size. Ideally, if there were a simple 5 percent change in population, we would expect a 5 percent change in households, and a zero percent change in average household size. If supply were running ahead of demand, we would get a 5 percent increase in households, or perhaps even greater as pent-up demand is relieved. That would result in a zero or even a negative change in average household size. But if demand runs ahead of supply, then a 5 percent

growth in population will produce less than five percent growth in households (as pent-up demand increases and household formation is delayed), and positive growth in average household size.

Table 9. Population Change by County, 2005-2015

		% Change between 2005 and 2015		
		Total Population	Number of HH	Average HH Size
County	Hawai'i	+19.1	+17.0	+0.3
	Honolulu	+10.9	+3.5	+8.8
	Kaua'i	+14.3	+11.7	+2.3
	Maui	+19.3	+12.5	+5.8
State		+13.1	+6.8	+7.9

Source: Calculated from Table 6 and Table 8.

Data for all four counties were consistent with a housing market where demand was greater than supply. Kaua'i County had a 2.3 percent increase in average household size over the 10-year period.

The State's population growth was relatively slow during the nineties and increased a bit during the last decade, largely in response to economic growth. The average household size fell off a bit by 2003 and even more by 2006. It then resumed faster growth, but did not quite reach the level seen in the years before 2000 until the present. In 2015, the average household size for the State is 3.11 persons. This is a notable increase over the 2014 average household size of 3.00.

Table 10. Total Household Growth, 1990-2015

	County				State
	Hawai'i	Honolulu	Kaua'i	Maui	
1990-2000	27.8%	8.0%	25.3%	31.3%	13.2%
2000-2005	14.0%	4.9%	8.0%	11.2%	7.0%
2005-2010	11.1%	1.4%	5.7%	6.0%	3.5%
2010-2015	5.3%	2.1%	5.7%	6.2%	3.2%

Source: Calculated from Table 8

Average household size decreased slowly from 1990 through 2005 and between 2007 and 2009, depending on the county (Table 11). Census numbers reported for 2014 were higher than those reported in 2010, suggesting that average household sizes were increasing very slightly. This would not be unusual in a housing market marked by low supply elasticity.

Table 11. Average Household Size, 1990-2015

	County				State
	Hawai'i	Honolulu	Kaua'i	Maui	
1990	2.86	3.02	3.09	2.99	3.01
2000	2.75	2.95	2.87	2.91	2.92
2005	2.77	2.91	2.85	2.86	2.88
2010	2.70	2.95	2.84	2.82	2.89
2014	2.88	3.03	3.03	2.94	3.00
2015	2.78	3.21	2.92	3.03	3.11

Sources: U.S. Decennial Census, 1990, 2000, 2010, ACS 2005 (1-yr Estimate), 2014 (5-yr Estimate), PEPANNRES, 2015, DBEDT 2040 Projections

2. Demand for Residential Property by Persons Living Out-of-State

The above data demonstrate that consistent growth in the size of Hawai'i's resident population increases demand on the residential housing stock. Though most of the demand for residential real estate in Hawai'i originates from the local population, Hawai'i's housing market is also affected by demand from non-residents.

Hawai'i has a list of qualities that drive non-resident demand for our housing units. We have a temperate climate, beautiful beaches, and abundant opportunity for outdoor activities and entertainment. Chronic health conditions are less prevalent than the national average, wages are higher, household incomes are higher than in other states, and our social welfare programs are at least perceived as being more available. Hawai'i's unique and welcoming culture is attractive to many people who wish to vacation or have a second home in the islands.

Recent research by DBEDT combined with tabulation of County Tax Map Key records and

Housing Demand Survey data point toward high rates of out-of-state ownership for residential property in Hawai‘i.

DBEDT’s 2015 study of home sales trends show that more than one-quarter of residential units sold between 2008 and 2015 were purchased by persons or agencies with out-of-state addresses. The counties have been disproportionally impacted by out-of-state sales in the last 8 years: nearly than half of Kaua‘i County’s housing unit sales were made to persons living outside the State (45.5%), whereas only 15 percent of Honolulu sales were made to non-residents.

Table 12. Out-of-State Sales, 2008 - 2015

		Total	In-State		Out of State	
		Units sold	Units	Pct.	Units	Pct.
County	Hawai‘i	27,041	15,444	57.1%	11,597	42.9%
	Honolulu	88,756	75,202	84.7%	13,554	15.3%
	Kaua‘i	7,221	3,956	54.8%	3,265	45.2%
	Maui	21,364	10,325	48.3%	11,039	51.7%
State		144,382	104,927	72.7%	39,455	27.3%

Source: DBEDT 2015 Residential Home Sales in Hawai‘i: Trends and Characteristics

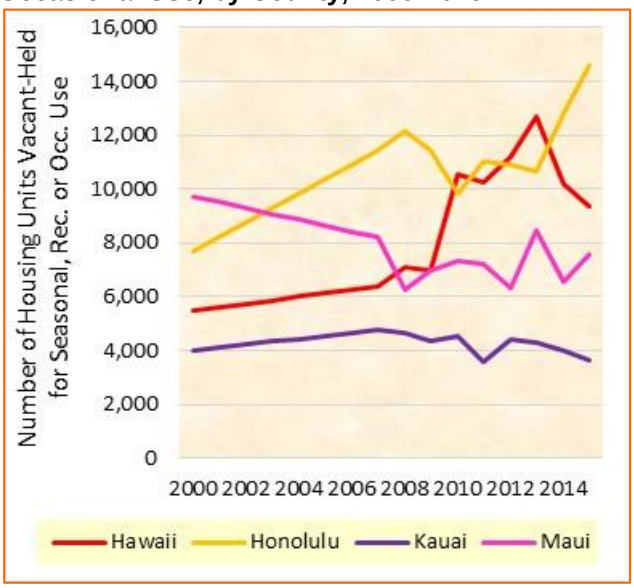
Most out-of-state buyers (85.4%) were Mainland residents. The rest (14.6%) were international buyers. Purchase prices of units bought by international buyers were 64.6 percent higher than prices paid by local buyers and 28.3 percent higher than prices paid by mainland buyers. Other data suggest that most out-of-state buyers (64%) purchased multi-family units.

Though there is variability across sources with regard to the estimated number of units owned by non-residents[23], all sources indicate that demand from out-of-state owners has always been significant and contributes to high housing prices in Hawaii.

a. External Demand and Vacancy Rates

Many units sold to out-of-state buyers were either second homes or timeshare units. They made up the bulk of units in what the Census calls *vacant, held for seasonal, recreational or occasional use.* We will call them “seasonal” units. These units are removed from the residential housing stock and are not available to residents in need of a housing unit.

Figure 5. Vacant Units Held for Seasonal or Occasional Use, by County, 2000-2015



Source: Census 2000; ACS 1-yr. estimates 2005-2006; ACS 3-yr. estimates 2007-2008; ACS 5-yr. estimates 2009-2014

On Kaua‘i, 4,270 seasonal units accounted for 14.2 percent of all housing units. In all, 6.3 percent of Hawai‘i’s housing units were non-primary residences in 2014. By comparison, the national average was about 2 percent. That means external demand by non-residents results in a substantial number of units that are not available as part of the residential housing stock. The loss of those units decreases the elasticity with which supply can accommodate changes in demand.

[23] The HHPS estimate is the number of residential properties owned by persons whose tax bills are mailed to an address outside the state divided by the total number of properties in tax records. DBEDT’s estimate was based on title searches conducted by Title Guarantee of Hawai‘i between 2008 and 2015. It was the number of residential properties sold to buyers with a pre-sale address outside of Hawai‘i, divided by the total number of titles registered during that period.

b. Impact of Out-of-State Sales on Needed Residential Units

External demand is an important consideration in estimating total demand and for planning to address the State's housing needs. The fact that 28 percent of all housing units were sold to out-of-state buyers will surely attract the attention of developers and property owners.

Building, maintaining, and operating units held for non-resident use contributes to Hawai'i's economy. It provides jobs and wages, revenue to local businesses, and it contributes to the tax base. However, building units to serve external demand competes with the development of units for residential use as it increases the cost of land, labor, and construction materials. The net result of the resource absorption by the out-of-state housing market is lower availability and higher costs of housing units for local residents.

Vacant units are essential to a viable housing market as they create "swap space". Swap space allows a household to transition to a new home without requiring another housing unit to become vacant at exactly the same time. A market without swap space would quickly experience gridlock and cease to function. Every market needs an adequate number of vacant units in the residential housing supply.

Housing planners are aware that units designed to be held for seasonal use have been built and will continue to be built in Hawai'i at rates higher than other states, and that none of these units can be expected to serve the housing needs of Hawai'i's residents. As a result, the significant impact of out-of-state sales must be carefully considered in estimating needed housing units and in framing housing planning discussions.

Changes in demand are grounded in population growth, household formation, changes in the number of families, and income distributions. Most of these items are accessible in published data sources. The details of housing demand require deeper investigation, however, and that has been the purpose of Housing Demand Surveys since 1992. All of these and other factors are covered in this section of the report.

3. Survey Demand Estimates

One of the objectives of the HHPS is to estimate the demand for housing units over the next five to ten years, and to use those forecasts to develop a number and description of needed units for the State. HHPS has always included a housing demand survey to improve demand estimates and provide details on would-be buyers and renters, their financial situations, and unit preferences. Data collected in the Housing Demand Survey were used to produce demand in three steps, estimating raw, effective, and qualified demand.

a. Raw Demand

Households were first asked when they would make their next move to a new housing unit. Some said they would never move from their current units. They had found the place they wanted to live in and they would stay there for the rest of their lives. Another group said they might move, but had no particular plans to go anywhere very soon. The rest said they would move and they would move sometime in the next ten years. This group of households with plans to move in the near future were classified as "movers" and provided our survey estimate of raw demand. By convention, raw demand is both the number of households that will move and the number of housing units they will need.

In 2016, raw demand was 57 percent statewide. This was a moderate increase from 40 percent in 2011. The counties of Kaua'i, Maui, and Hawai'i had similar levels of raw demand (Kaua'i: 44.3%, Maui: 52.3%, Hawai'i: 49.8%). At 60 percent of all households, the City and County of Honolulu had the highest raw demand. If 56 percent of the people realized their expectation and moved to a new housing unit, the result would be 262,852 real estate transactions -- the number of units involved in real estate transactions during the period.

Table 13. HHPS Demand Survey Demand Estimates, by County, 2016

	County									
	Honolulu		Maui		Hawai'i		Kaua'i		State	
	Number	Pct.	Number	Pct.	Number	Pct.	Number	Pct.	Number	Pct.
Total Households	317,459	100.0%	55,059	100.0%	66,989	100.0%	23,369	100.0%	462,876	100.0%
Will not move	127,082	40.0%	26,275	47.7%	33,653	50.2%	13,014	55.7%	200,024	43.2%
Raw Demand	190,377	60.0%	28,784	52.3%	33,336	49.8%	10,355	44.3%	262,852	56.8%
Move out of state	49,421	26.0%	6,340	22.0%	7,867	23.6%	1,754	16.9%	65,382	24.9%
Will move, no plan	38,010	20.0%	4,875	16.9%	5,267	15.8%	2,156	20.8%	50,307	19.1%
Effective Demand	**102,946**	**54.1%**	**17,569**	**61.0%**	**20,202**	**60.6%**	**6,445**	**62.2%**	**147,163**	**56.0%**

Source: Housing Demand Survey, 2016. Raw demand is households that plan to move. "Will move out of state" is the number of households whose first location choice was out-of-state. "Will move, no plan" is the number of households who were unsure or refused to report when they expected to move. Out-of-state and no plan households are excluded from effective demand.

Reasons for Leaving the State

The Demand Survey also asked respondents if they would move out of the State on their next move. About 22 percent of them said they would move out of state. That was lower than the 24 percent reported in 2011, but higher than the 18 percent reported in both 2006 and 2003 (Appendix Table A-13).

The Demand Survey also asked those who wanted to move out of State why they were leaving. Thirty-one percent of them said housing was one of the problems causing them to move. That was slightly higher than the 30 percent reported in 2011 and higher than in any of our previous demand surveys. It differed slightly from one county to another (Maui: 31%, Honolulu: 29.4%, Hawai'i and Kaua'i: 38%).

Reasons for Not Buying

We asked the 2016 Housing Demand Survey respondents who were interested in moving to a new home, but not interested in buying, why they would not buy. Sixty-four percent of them told us that home prices were too high, or that it was too expensive to buy right now (Table 14). Twenty-eight percent said they could not afford the down payment; 14 percent said they could not afford the monthly payment; and 12 percent said they could not qualify for a mortgage loan.

Less than ten percent (9.2%) said they preferred to rent right now. Some of those were not going to be in Hawai'i for a long time and they did not want to be tied down to any one place. Others were not ready for the kind of commitment that home ownership requires.

Table 14. Top Six Reasons for Not Buying a Home, 2016

	County				
	Hawai'i	**Honolulu**	**Kaua'i**	**Maui**	**State**
Too Expensive	47.5%	65.8%	73.1%	66.1%	64.1%
Cannot Afford Down Payment	23.0%	30.8%	12.0%	23.0%	28.0%
Cannot Afford Monthly Payment	14.8%	15.4%	8.2%	9.7%	14.3%
Cannot Qualify For Loan	8.6%	12.6%	4.7%	13.2%	11.9%
Do Not Want To Buy; Prefer To Rent	10.2%	10.1%	6.5%	4.4%	9.2%
Other	19.6%	15.0%	21.6%	19.6%	17.6%

Source: Housing Demand Survey, 2016

In 2016, fewer households wanted to move away from Hawaii. Fewer were moving because of housing issues, and fewer were not buying because of a lack of confidence in Hawaii's real estate markets. There were still many families moving out of Hawaii because they could not afford to buy a home, and Table 14 more than attests to a very high priced market forcing many prospective homeowners into rental units. Fortunately, the end of the Great Recession seems to have brought at least a modicum of confidence to the market.

b. Effective Demand

A household that moves out of Hawai'i will not increase demand for Hawaii housing units and must be excluded from current demand. For this reason, we computed an estimate of effective demand that included only respondents who would move within the State. Movers, defined as residents who met the criteria for inclusion in the effective demand estimate, were expected to generate market activity (buying, selling, or both) in the next several years. As such, the estimate of effective demand is the number of units likely to be affected as these movers enter the market.

Table 15. Effective Demand for Next Five Years by County, 1992, 1997, 2003, 2006, 2011, and 2016

		Effective Demand *Percent of households intending to move to a housing unit in Hawai'i in the next five years*					
		1992	1997	2003	2006	2011	2016
County	Hawai'i	40.2	34.3	33.8	36.3	26.0	38.7
	Honolulu	51.7	47.3	38.9	33.2	31.3	44.9
	Maui	38.8	41.4	35.7	39.6	31.3	38.7
	Kaua'i	38.5	34.2	31.4	30.6	27.3	31.2
State		48.4	44.4	37.5	34.2	30.3	42.6

Source: Housing Demand Survey, 1992, 1997, 2003, 2006, 2011, and 2016

Across the State, effective demand fell in each Housing Demand Study year from 1992 (48.4%) through 2011 (30.3%). In 2016, statewide effective demand jumped to 42.6 percent, nearly reaching the level observed in the late 1990s. The long-term trend, marked by slower market activity, turned upward in 2015. The 20-year low measured in 2011 occurred during a housing market with very high prices and low inventories. Such market conditions do not favor buyers. The increase in effective demand that we see in 2016 occurs at a time when home prices are high and inventories are low following an 8-year period of low market activity. The situation suggests a build-up of pent-up demand. These conditions might be expected to result in more people being interested in moving.

Historically, effective demand estimates for the counties have been similar over time. Among the Neighbor Island counties, effective demand has been highest in Maui County and lower in Hawai'i and Kaua'i Counties. Honolulu County's effective demand has generally been highest among the counties.

c. Qualified Demand

Qualified demand narrows the demand estimate further by considering only effective demand households that are financially prepared to pursue their preferred tenancy and unit type. This step eliminates households that do not have the financial qualifications to purchase or rent housing units in the current economy.

Based on this analysis, we estimate that 42 percent of effective demand households are financially prepared to acquire a different residence. This is notably higher than in 2011, (30%), 2006 (34%), and 2003 (38%).

Table 16. Qualified Demand for All Unit Types by County, 1992, 1997, 2003, 2006, 2011, and 2016

	County				
	Hawai'i	Honolulu	Maui	Kaua'i	State
1992	40.2%	51.7%	38.8%	38.5%	48.4%
1997	34.3%	47.3%	41.4%	34.2%	44.4%
2003	33.8%	38.9%	35.7%	31.4%	37.5%
2006	36.3%	33.2%	39.6%	30.6%	34.2%
2011	26.0%	31.3%	31.3%	27.3%	30.3%
2016	36.9%	44.0%	39.7%	35.1%	42.1%

Source: Housing Demand Survey, 1992, 1997, 2003, 2006, 2011, and 2016

Differences exist between prospective buyers and renters with regard to their financial preparedness for a new home. Statewide, only about 7 percent of households that plan to buy a single-family unit are financially able[24] to do so. A greater percentage of households planning to purchase a multi-family unit, 19 percent, are financially prepared to pursue their preferred housing. Finally, among households that expect to rent their next residence, 24 percent are financially able to make the median monthly rent payments without allotting more than 30 percent of their household income to cover that expense.

4. Housing Preferences (Buyers & Renters)

As in the past, buyer and renter preferences for housing unit characteristics were measured in 2016. The objective was to provide information on preferences to support a broad range of housing issue analyses over the next few years. In this section of the report, we will briefly describe the most salient of those preferences.

Forty-seven percent of households that planned to move said they would buy their next unit. Plans for home ownership were on the upswing, following an all-time low of 42 percent in 2011. The shift away from homeownership in 2011 was likely a reaction to the economic climate, difficulties obtaining financing, and delays for homeowners who had to a current unit to purchase a new one. It should be noted that a preference for ownership does not always translate into reality in the marketplace. About 15 percent of survey respondents statewide who said they planned to purchase their next home conceded that they were not sure they would be able to afford it and may have to continue renting.

a. Households Planning to Buy

To evaluate financial readiness of households wishing to buy a housing unit in Hawai‘i in the next five years, we examined their income, affordable monthly housing payment, and total amount available for a down payment. These elements were evaluated against a median priced home assuming a fixed rate, thirty year loan, a four percent interest rate, and a twenty percent down payment. The results are outlined in Tables 17 and 18.

Statewide, 18 percent of prospective buyer households planning to purchase a single-family home indicated they could afford to make the monthly mortgage payments. Twenty-six percent of these households reported that they had sufficient funds to make a twenty percent down payment. When both of these financial qualifications were applied, 7 percent of households would be considered fully qualified.[25]

The situation among prospective buyers varies by county. For Kaua‘i and Honolulu, a larger percentage of households reported having enough money to put toward the down payment than indicated that they would be able to afford the monthly mortgage payment. Thirteen percent of both Kaua‘i and Hawai‘i County’s intended buyers were fully qualified. This compares to only 5 percent of buyer households in Honolulu and 9 percent of Maui buyers who were fully qualified.

The same set of financial qualification measures was applied to potential homebuyers who sought to purchase a multi-family unit rather than a single-family home. Using the current median sales price for condominiums in each county, the financial readiness of these households was determined. As shown in Table 18, Hawai‘i residents planning to purchase a multi-family rather than a single-family unit are somewhat more likely to be financially able to do so.

Because the median price, and therefore the monthly mortgage and down payment required, is lower for multi-family units, a significantly greater percentage of Hawaii households would

[24] Have sufficient funds for the down payment AND are able to make the monthly mortgage payment without allotting more than 30 percent of their household income to the housing payment.

[25] Fully qualified households were able to afford the monthly mortgage payments AND had sufficient funds to make the 20 percent down payment.

be able to make the monthly payments for a condominium than for a single-family unit. For the State, 48 percent of potential multi-family home buyers could afford to make the monthly housing payment. Twenty-seven percent of these households have enough money for the down payment. After both criteria are applied, 19 percent of households across the State planning to purchase a multi-family unit would be fully qualified to do so. This is roughly one-and-a half times the percentage of households fully qualified to purchase a single-family home.

These results suggest that multi-family ownership units may be an attractive alternative for those households that wish to purchase their next home but cannot meet the financial obligations that accompany a single-family unit. When households with a preference for a single family home were asked if they would consider a condo unit if a single-family unit in their price range was not available, more than half (54%) of prospective home buyers indicated that they would consider that option. Those households willing to accept a multi-family unit were almost equally divided between current homeowners (47%) and current renters trying to transition to home ownership (53%).

Table 17. Financial Qualification to Purchase a Single Family Home, Counties & State, 2016

	Honolulu	Maui	Hawai'i	Kaua'i	State
Median Sales Price	$760,000	$607,000	$363,000	$581,000	$623,000
Down Payment Required	$152,000	$121,400	$72,600	$116,200	$124,600
Monthly Mortgage Payment	$3,628	$2,898	$1,733	$2,774	$2,974
Total Effective Demand Buyers	23,116	5,009	6,084	1,679	35,888
Can Afford Monthly Payment	11.5%	25.9%	34.4%	10.6%	17.8%
Have Adequate Down Payment	26.5%	23.3%	24.3%	18.6%	25.9%
Fully Qualified	4.5%	9.3%	12.7%	13.1%	7.1%

Source. Median prices from Honolulu Board of Realtors (June 2016) and Zillow (May 2016). Housing Demand Survey, 2016. Base is effective demand households that plan to purchase a SFD unit.

Table 18. Financial Qualification to Purchase a Multi-Family Unit, Counties & State of Hawai'i, 2016

	Honolulu	Maui	Hawai'i	Kaua'i	State
Median Sales Price	$405,000	$370,000	$330,000	$377,000	$386,000
Down Payment Required	$81,000	$74,000	$66,000	$75,400	$77,200
Monthly Mortgage Payment	$1,934	$1,766	$1,576	$1,799	$1,843
Total Effective Demand Buyers	10,473	664	391	80	11,608
Can Afford Monthly Payment	49.3%	50.9%	70.1%	70.0%	48.2%
Have Adequate Down Payment	29.2%	23.0%	9.2%	76.3%	27.1%
Fully Qualified	18.7%	20.9%	9.2%	56.3%	18.9%

Source. Median prices from Honolulu Board of Realtors (June 2016) and Zillow (May 2016). Housing Demand Survey, 2016. Base is effective demand households that plan to purchase a MFD unit.

b. Households Planning to Rent

Over three-quarters of the households planning to rent their next home cited financial reasons for their decision, including inability to afford a down payment or monthly payment and that purchasing a home in Hawai'i is just "too expensive". These households were also asked if they would opt to purchase a home now instead of renting if there was a unit available they could afford. Over 75 percent responded affirmatively.

The financial qualification of Hawai'i households planning to rent their next home was evaluated using the current average monthly rent rate for single family homes and multi-family units in the State of Hawai'i and each county. Household

income, current monthly shelter payment, and affordable monthly rent amount were examined to determine the financial readiness of Hawai'i's prospective renters.

Among the approximately 50,000 households across the State that intend to rent their next home, 54 percent plan to rent an apartment or other multi-family unit. Among these households, 29 percent indicated that making the average monthly rent payment would not be a problem. In addition, over 30 percent of these households are currently making monthly rent payments equal to or higher than the median rent amount. For 24 percent of prospective multi-family unit renters, it would require less than 30 percent of their household income each month.

Among renters who desire to rent a multi-family unit, those in Kaua'i County are the most financially prepared to do so.

The remaining 46 percent of households (21,282) planning to rent their next residence in Hawai'i would prefer a single-family dwelling. Statewide, a greater number of those planning to rent a house indicated they could afford higher monthly rent payments than was supported by either their current rent payments or their annual income.

Thirty-seven percent reported that the median monthly rent payment or higher would be within their budget. Only 28 percent were currently making shelter payments at or above that level. Further, annual household income figures suggested that less than one-quarter (24%) are capable of making the median rent payment for a single-family home without spending more than 30 percent of their monthly household income for shelter.

Table 19. Financial Qualification to Rent a Multi-Family Unit, Counties and State of Hawai'i, 2016

	Honolulu	Maui	Hawai'i	Kaua'i	State
Median Monthly Rent Amount	$2,279	$1,922	$1,718	$1,877	$1,574
Security Deposit + 1st Mo. Rent	$4,558	$3,844	$3,436	$3,754	$3,148
Total Effective Demand Renters	23,568	2,516	2,016	717	28,818
Affordable Rent* Same or Higher	11.5%	16.8%	15.1%	14.8%	28.9%
Current Rent Same or Higher	13.4%	19.3%	13.1%	12.9%	30.6%
Income-Based Qualification	10.5%	7.1%	21.2%	24.6%	24.4%

Source: Median rents from Rent Range (Feb. 2016) for all unit sizes. Qualified renters from HHPS 2016.
Base is households that plan to rent their next MFD unit in the State of Hawai'i.
* Self-reported affordable rent amount.

Table 20. Financial Qualification to Rent a Single Family Unit, Counties and State of Hawai'i, 2016

	Honolulu	Maui	Hawai'i	Kaua'i	State
Median Monthly Rent Amount	$2,657	$2,090	$1,431	$1,930	$2,084
Security Deposit + 1st Mo. Rent	$5,314	$4,180	$2,862	$3,860	$4,168
Total Effective Demand Renters	12,026	3,792	3,845	1,618	21,282
Affordable Rent* Same or Higher	23.7%	22.9%	38.2%	29.6%	36.5%
Current Rent Same or Higher	27.2%	26.1%	27.0%	17.9%	28.0%
Income-Based Qualification	23.0%	10.7%	29.2%	15.1%	23.7%

Source: Median rents from Rent Range (Feb. 2016) for all unit sizes. Qualified renters from HHPS 2016.
Base is households that plan to rent their next SFD unit in the State of Hawai'i.
* Self-reported affordable rent amount.

5. Housing Preferences

a. For Owned Units

Once again, most potential buyers statewide (68%) preferred single-family detached homes. Single-family units are more important to buyers in Kaua'i (84%), Maui (83%), and Hawai'i (85%) Counties (83%) than in Honolulu (61%).

About 40 percent of potential buyers said they would be looking for at least a two-bedroom unit and 29 percent said they would need at least three bedrooms. The willingness to settle for fewer bedrooms was higher than in the past, perhaps reflecting their readiness to compromise on unit size in the face of high prices.

The same was true for the preferred number of bathrooms. Half of buyers conceded that they would be willing to accept a unit with only one or one-and-a-half bathrooms.

Asked about the smallest unit they would accept, nearly half of would-be buyers (46%) said they could live with 800 to 1,200 square feet. An additional 16 percent said they could accept units between 1,200 and 1,500 square feet.

b. For Rented Units

Households that planned to rent their next home were mostly current renters (87%). Among those who would rent their next unit, 43 percent preferred to rent a single-family house. About 47 percent preferred an apartment or condominium, and another seven percent chose a townhouse. Preference for single-family homes was once again much higher on Neighbor Islands. On O'ahu, renters were more interested in townhomes.

Across the State, renters first choice would be larger units with two (43%) or three bedrooms (31%). Nearly all of the potential renters, however, were willing to take units with fewer than three bedrooms, if necessary (83%). Again, these figures suggest a willingness to accept smaller units than in the past. The number of bathrooms required was also relatively low, with 69 percent reporting that they could accept one or one-and-a-half baths.

About 41 percent of potential renters said they would need less than 1,000 square feet of space in their next unit. An almost equal number of renters reported a need for between 1,000 and 1,500 square feet (39%).

Sixty-five percent of households that plan to rent their next unit indicated that they would like to purchase a home in the future. Their reasons for not doing so now most often included the high cost of housing and insufficient funds for a down payment. On average, these households plan to buy a unit in about eight years.

C. HOUSING PRICES

The primary determinants of housing prices are housing demand and housing supply. As demand increases, prices rise. If new units are supplied to the market, prices fall. As prices rise, units are supplied and demand decreases and prices fall. As prices fall, supply falls off and demand increases. If demand and supply continually work in this fashion, the price of housing will reach equilibrium.

1. Sales Prices

This simple model of price behavior doesn't work the same way in every housing market. During the first half of the last decade, a number of researchers noticed that house prices in certain regions had begun to exceed the cost of production by significant margins. Glaeser and Gyourko (2008) summarized their work, concluding that, with respect to house prices, there were three general types of housing markets in the U.S.: (1) low-priced, low demand markets[26]; (2) medium priced, high demand markets with high supply elasticity[27]; and (3) high-priced markets with high demand and low

[26] For example, Buffalo, Rochester, Erie, Cleveland, Gary, Akron, and Detroit.

[27] Examples are Houston and Dallas, Oklahoma City, Ames Iowa, Topeka Kansas, and Lincoln Nebraska.

supply elasticity.[28] Hawai'i's markets are of type 3 which we will refer to as "high-priced markets". They have very high prices, highly volatile market activity, and a supply side that does not respond quickly to increases in demand. They also have high productivity ratings measured by higher wages and higher household incomes, higher amenities, and greater external demand.

In high-priced markets, demand and supply do not contribute equally to the house prices. Theo Eicher (2008) looked at both factors in Washington State and concluded that, between 1989 and 2006, demand factors (population growth and income) increased the cost of a house in Washington by $50,000. Supply factors (land use regulation, permitting delays, and statewide growth management) increased the cost of a house by $200,000.

Recently, housing economists found that the behavior of high-priced housing markets has departed even further from the simple demand and supply model.[29] Gyourko, Mayer, and Sinai (2013) advanced the argument that the standard demand model may not hold for high-priced housing markets. In those markets, a sharp change in housing demand can speed up price growth rates and change the composition of local populations.

Gyourko et al. found these so-called Superstar cities had 60 percent higher house prices than other cities. They also had average incomes that were 24 percent higher and 3.4 percent more high-income households than other cities. Superstar prices were disproportionately affected when household income changed. When the national number of rich families increased, the price of housing in Superstar cities rose by 39 percent more than in other cities. Between 1970 and 2000, home prices in those cities rose by 75 percent, so national income increase accounted for more than 80 percent of the excess growth in Superstar cities (p.185).

High house prices cause continuing increases in price, even without an increase in location value or a change in the elasticity of supply. They lead to higher rents and greater population growth as higher-income households crowd out lower-income households. They will alter income distribution, as higher-income buyers crowd out middle-income homeowners.

Finally, this high-price, low elasticity of supply market causes a change in the price-to-rent ratio. Lower income households will be crowded out; higher income households will expect higher appreciation and will be even more willing to accept higher home prices. Thus, high prices create increased demand.

Some newer research suggests that other correlates of high-priced housing are worthy of more intense research, including tourism, income inequality, and liberal politics.

a. Impact of High House Prices

The most distinctive characteristic of Hawai'i's housing market is high prices. Figure 6 shows single-family and condominium sales prices from 1980 to 2015 in Honolulu. Prices are in current dollars.

Our last two price run-ups are clearly indicated. In both cycles, housing prices more than doubled in a few years. Both periods of expansion ended quickly, after which prices dropped slightly, then held in place. The period of adjustment following the last run-up was nearly a decade long. The post-2008 recovery has been 7 years in the making. Prices regained their 2007 peaks by 2012 for condominiums and 2013 for single-family homes.

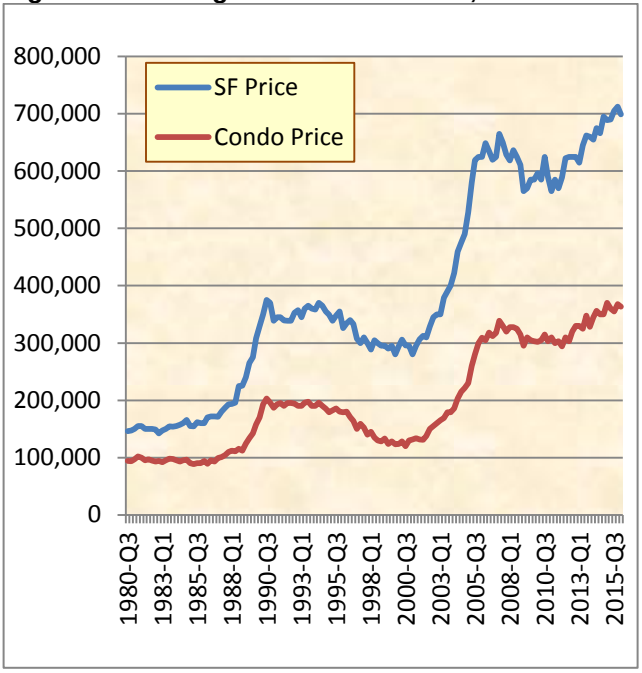
The intensity of the run-up periods is not unique to Hawai'i. West Coast States, New England, New York, Washington D.C., and Miami have similar profiles. New York, Boston, and Los Angeles have had higher home prices than

[28] Such as Honolulu, San Francisco, Los Angeles, Portland, Seattle, Chicago, Boston, New York, Washington, D.C., and Miami.

[29] Gyourko et al. were working with the standard cross-sectional housing demand model, which posits that changes in price are caused by differences in the economic value of living in one market or another, which are in turn driven by differences in wages, amenities, and fiscal policies.

Hawai‘i in some recent years. San Francisco’s price history is even more volatile than Hawai‘i’s.

Figure 6. Housing Prices in Honolulu, 1980-2015



Source: UHERO

The most unique aspect of Hawai‘i’s housing market history is the length of time that prices remain steady after a run-up – the recovery period.. Prices drop, but by lesser amounts and at a slower pace than in other high-priced markets.

Table 21 shows median sales prices for single-family homes and condominiums in Hawai‘i between 2009 and 2016. More detailed home price information is presented in the Appendix. As suggested by Figure 6, however, the years between 2009 and 2016 were characterized by increasing prices, but the rise was far short of the rate of increase experienced by other states during a run-up.

Across the State, the median sales price of a single-family dwelling increased 18 percent between 2010 and 2015. On Kaua‘i, the median sales price increased 27 percent over the same period. The increase in condominium sales prices in the rest of the nation was slightly lower at 13 percent between 2010 and 2015. The increase in the median sales price for condominiums on Kaua‘i during the same five-year period was 34 percent. Clearly the pressure of demand for units on Kaua‘i, combined with relatively slow production during the period, had a notable impact on prices.

Table 21. Median Home Sales Prices, Counties and State of Hawai‘i, 2009 and 2015

	County				
	Hawai‘i	Honolulu	Kaua‘i	Maui	State
Single-Family House Sales Prices (in thousand)					
2009	$277	$576	$469	$496	$495
2010	$258	$599	$494	$459	$486
2011	$244	$577	$462	$435	$470
2012	$262	$624	$459	$469	$501
2013	$294	$646	$520	$527	$543
2014	$317	$673	$543	$568	$572
2015	$330	$699	$625	$585	$600
Multi-Family Condominium Sales Prices (in thousand)					
2009	$285	$303	$314	$394	$313
2010	$254	$306	$269	$384	$311
2011	$210	$302	$234	$309	$292
2012	$259	$316	$293	$354	$316
2013	$261	$333	$302	$372	$333
2014	$283	$350	$344	$412	$352
2015	$273	$363	$359	$411	$364

Source: UHERO. Further details on home sales prices are shown in Appendix Tables D-14 and D-15.

These figures are supported by a recent report on residential home sales in Hawai‘i[30] that put the average sale price of a single-family house between 2008 and 2015 at $528,300 for the State. The average sale price for condominiums in the same period was $328,000.

2. Rents

The Rental Housing Study 2016 shows that Hawai‘i average contract rents were on the rise from 2009 through the first quarter of 2016. The data indicate that rents continue to rise for the State and each of the four Counties.

[30] http://files.hawaii.gov/dbedt/economic/datareports/homesale/Residential_Home_Sales_in_Hawaii_May2016.pdf

Table 22. Average Rent for All Units, Counties and State of Hawai'i, 2009-2016

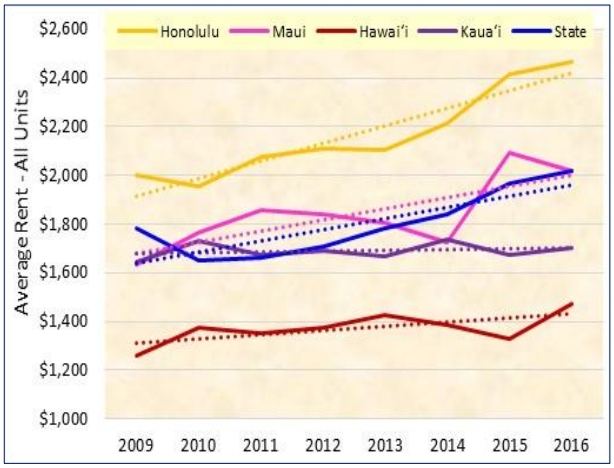
	County				
	Hawai'i	Honolulu	Kaua'i	Maui	State
2009	1,261	1,999	1,645	1,632	1,783
2010	1,375	1,953	1,733	1,764	1,650
2011	1,353	2,076	1,673	1,860	1,662
2012	1,377	2,109	1,694	1,840	1,706
2013	1,427	2,106	1,668	1,804	1,781
2014	1,387	2,214	1,736	1,728	1,841
2015	1,331	2,417	1,675	2,093	1,964
2016	1,474	2,468	1,704	2,106	2,019

Source: Rent Range, 2009-2016. Figures shown in current U.S. dollars

The contract rent data suggest that, across all types (single-family and multi-family) and sizes (one-bedroom through five-bedroom) of rental units, renters in Hawai'i are paying more for their accommodations now than they were previously.

For the State, the current average rent is 2.8 percent higher than in 2015. Increases in nearly all of the counties were one to two percent over last year. One-third of Kaua'i's households rented their homes and made an average monthly rent payment of $1,704. This was only 1.9 percent higher than their 2011 average payment.

Figure 7. Average Rents, Counties and State of Hawai'i, 2009-2015



Source: Rent Range, 2009-2016.

Although the U.S. Department of Housing and Urban Development's Fair Market Rents for each of the counties are lower than the average contract rents, the percentage increases over the past year are very similar. The increases for Maui, Hawai'i, and Kaua'i Counties ranged from one to four percent, while the increase for Honolulu was ten percent.

Analyses of the rents by unit type and size revealed that these increases were common across all types and sizes of units. Between 2011 and 2016, increases in rent amounts were larger for multi-family (21.5%) than for single-family (15.2%) rental units.

Table 23. Average Fair Market Rent for All Units, Counties of Hawai'i, 2009-2016

	County			
	Hawai'i	Honolulu	Kaua'i	Maui
2009	1,160	1,825	1,332	1,584
2010	1,232	1,906	1,414	1,682
2011	1,280	1,904	1,470	1,749
2012	1,295	1,977	1,428	1,625
2013	1,150	2,060	1,835	1,374
2014	1,047	2,046	1,739	1,318
2015	1,268	2,034	1,330	1,321
2016	1,311	2,172	1,310	1,429

Source: Dept. of Housing and Urban Development, 2009-2016. Current U.S. dollars.

Table 24 presents the data for rent prices between 2009 and 2016. Figures are shown for single-family units and multi-family units, and for unit sizes including 1-bedroom, 2-bedroom, 3-bedroom, and 4- bedroom units. Rent prices are shown as current dollars for each year.

Table 24. Average Rent by Unit Type and Size, State of Hawai'i, 2009-2016

	Single-Family Unit						Multi-Family Units				
	1BR	2BR	3BR	4BR	5BR	All SF Units	1BR	2BR	3BR	4BR	All MF Units
2009	1,064	1,359	1,981	2,325	2,848	1,915	1,121	1,467	1,909	1,970	1,783
2010	1,073	1,425	1,815	2,246	2,227	1,757	1,032	1,386	1,777	1,866	1,650
2011	1,165	1,481	1,830	2,345	2,153	1,795	1,090	1,387	1,807	1,703	1,662
2012	1,086	1,476	1,803	2,134	2,456	1,791	1,101	1,420	1,792	2,083	1,706
2013	1,137	1,491	1,922	2,213	2,503	1,853	1,141	1,494	1,911	2,221	1,781
2014	1,093	1,490	1,864	2,223	2,610	1,856	1,218	1,605	2,057	2,415	1,841
2015	1,182	1,590	2,032	2,600	2,693	2,020	1,250	1,645	2,126	2,559	1,964
2016	1,212	1,537	2,085	2,719	2,784	2,067	1,275	1,719	2,174	2,672	2,019
% chg (2011-2016)	4.0%	3.8%	13.9%	15.9%	29.3%	15.2%	17.0%	23.9%	20.3%	56.9%	21.5%

Source. Rent Range, 2009-2016. Figures are current U.S. dollars. Further details are shown in Table E-10 through E-13 in the Appendix.

The average rent for a two-bedroom single-family unit increased by 4 percent from 2011 to 2016, and monthly rent for the same size multi-family unit increased by 24 percent during the same period. Similarly, the average amount paid to rent a four-bedroom single-family unit went up by $373 (16%) between 2011 and 2016. In that same time, the average rent for four-bedroom multi-family units jumped by $970 (57%).

This trend is not unique to Hawai'i; rents were up for all major metropolitan areas. Honolulu is consistently ranked near the top of the list of America's high-rent cities and, in 2016, our average rent was second only to San Francisco.

With the recent improvement in the overall economy, rentership has increased as more kids move out of their parents' basements and into rental apartments. This leads to falling rental vacancies and increasing rents. With many of the would-be first-time buyers unable to afford current housing prices, homeownership has dipped in exchange for increases in rentership.

3. Affordable Housing

Simply having one housing unit per household with additional vacant units to ensure a reasonable vacancy rate does not ensure that all households will be adequately housed. There must be a sufficient number of units to accommodate all households and an appropriate mix of unit types and sizes in the appropriate locations. Perhaps the most significant challenge in housing Hawai'i's people is the high cost of housing across the state. While the multi-million dollar homes sought by wealthy international buyers will nearly always be supplied by the market, the number of homes that are affordable to lower income households is limited.

a. Employment and Affordable Prices

There are numerous definitions of affordable housing and many approaches to describing the impact of affordability on the population. We have already discussed the shelter-to-income ratio and its role in estimating affordability. Households with very high STI ratios are said to be living in unaffordable units. Areas with high average STI ratios are less affordable than those with lower ratios.

In recent years, the measure of the wage and salary income needed to rent a median-priced 2-bedroom apartment has attracted the attention of many. The measurement was developed by the National Low-Income Housing Coalition (NLIHC) and is available in the Out Of Reach Report annually. A summary of findings for 2016 are presented in Table 25. Details appear in Table E-6 in the appendix.

Table 25. FY16 Housing Wage, Hawai'i 2016

	Hourly wage necessary to afford a 2-bedrooom rental unit at HUD Fair Market Rent, 2016
State of Hawai'i	$ 34.22
Hawai'i County	$ 22.96
Honolulu County	$ 38.17
Kaua'i County	$ 23.81
Maui County	$ 24.73

Source. NLIHC Out Of Reach, 2016

Compare Hawai'i's Housing Wage ($34.22) with the average wage of a renter in the state ($14.53), and it is understandable that there are many households with very high shelter-to-income ratios. Notice, also, the large differences between the City and County of Honolulu and the other counties. Finally, the NLIHC measure allows us to compare our rent wage with others across the nation. Hawai'i's 2016 rent wage is the highest among the States and the Honolulu rent wage is the seventh highest among all the counties in the nation.

b. Affordable units in the current housing stock

For housing planning, we prefer a definition of affordable housing units recently developed by the Urban Institute (UI).[31] They defined affordable housing units as units with a monthly mortgage or rent payment that would require no more than 30 percent of the monthly household income for a household earning a specified percent of the HUD Area Median Income (AMI).

Unlike other measures of affordability, which measure the condition of households or persons in households, UI affordability measures affordability as a condition of the housing stock.

The taxonomy classifies all housing units, occupied and vacant, as affordable or unaffordable to those households within specific HUD household income guidelines. By virtue of the HUD guidelines, classified housing units are affordable and adjusted for household size and geography. We applied the procedure to Hawai'i household prices and rents in Public Use Microdata Sample (PUMS) data for 2014, using guidelines for 30 percent, 50 percent, 80 percent, and 100 percent of AMI for each county.

[31] Leopold, Josh, Liza Getsinger, Pamela Blumenthal, Katya Abazajan, and Reed Jordan. (2015). The housing affordability gap for extremely low-income renters in 2013, Urban Institute Research Report, June 15, 2015.

Table 26. Affordable Housing Units by Occupancy, Tenure, and County, 2014

	State	Hawai'i	Honolulu	Kaua'i	Maui
TOTAL HOUSING STOCK	477,515	69,458	321,661	24,955	61,395
TOTAL UNITS WITH PAYMENTS	380,914	49,960	261,682	19,220	50,021
% affordable at 50% AMI	21.5%	20.3%	22.1%	24.1%	18.7%
% affordable at 80% AMI	49.8%	49.4%	49.9%	53.3%	48.6%
% affordable at median AMI	58.8%	54.1%	60.2%	61.3%	59.2%
RENTAL UNITS					
Occupied	179,636	18,816	132,483	7,616	20,690
% affordable at 50% AMI	32.6%	32.5%	32.8%	41.4%	27.9%
% affordable at 80% AMI	66.8%	71.1%	65.3%	67.8%	68.4%
% affordable at median AMI	71.2%	75.5%	68.9%	75.3%	80.7%
Vacant	21,117	2,636	8,927	1,969	7,585
% affordable at 50% AMI	34.5%	48.6%	39.3%	23.0%	26.8%
% affordable at 80% AMI	70.4%	79.4%	76.2%	59.2%	63.4%
% affordable at median AMI	78.1%	86.6%	82.4%	69.7%	72.1%
OWNERSHIP UNITS					
Occupied	174,062	26,272	117,679	9,044	21,067
% affordable at 50% AMI	18.5%	9.1%	8.9%	11.0%	7.2%
% affordable at 80% AMI	30.4%	30.9%	31.0%	33.2%	25.0%
% affordable at median AMI	44.3%	35.6%	49.0%	41.0%	34.4%
Vacant	6,099	2,236	2,593	591	679
% affordable at 50% AMI	10.0%	15.5%	8.8%	4.1%	1.7%
% affordable at 80% AMI	34.8%	48.4%	30.6%	25.9%	13.6%
% affordable at median AMI	47.0%	53.5%	51.3%	34.3%	28.5%
ALL UNIT TYPES					
Occupied	353,698	45,088	250,162	16,660	41,757
% affordable at 50% AMI	33.7%	36.9%	33.4%	39.2%	29.5%
% affordable at 80% AMI	56.5%	57.2%	56.5%	61.9%	53.5%
% affordable at median AMI	61.4%	63.5%	61.2%	65.2%	58.7%
Vacant	27,216	4,872	11,520	2,560	8,264
% affordable at 50% AMI	29.7%	34.2%	32.4%	24.8%	24.8%
% affordable at 80% AMI	57.5%	68.3%	54.6%	54.0%	56.2%
% affordable at median AMI	61.8%	73.9%	58.7%	58.1%	60.1%
Units with No Housing Payment	96,601	19,498	59,979	5,735	11,374

Source. SMS estimates from ACS 5-year data 2014. "Housing stock" includes occupied housing units and vacant plus available units. Units with no payment include owner units with paid mortgages and units occupied without payment of cash rent.

Results are presented in Table 26. Less than half of the housing stock statewide (49.8%) was affordable to households earning 80 percent of HUD AMI. The housing stock on Kaua'i included the largest percentage of affordable units (53.3%), and the City and County of Honolulu had the lowest proportion of affordable housing units at 49.9 percent.

Across the state, 21.5 percent of available units were affordable to households earning 50 percent of the median AMI. An additional 28.3 percent of all units were affordable to households with incomes between 50 percent and 80 percent of AMI. That made 49.8 percent of all units available to households with incomes below 80 percent of AMI. Finally, 58.8 percent of the housing units in Hawaii were affordable to households with incomes below the area median income.

In every county, many more rental units than ownership units were affordable to households with incomes below the AMI. Seventy-one percent of occupied and 78 percent of vacant rental units were affordable at 100 percent of AMI. Comparable figures for ownership units were 44 and 47 percent.

At the median income level, the percent of currently occupied housing units and currently vacant housing units that were affordable were very similar at 61 percent.

The UI measure of affordable housing in a geographic area has advantages and disadvantages. The major advantage is that it provides a measure of affordability that is tied to individual housing units rather than an estimate based on the characteristics of occupants. Planners know how many units are affordable and even how many of those are vacant and available.

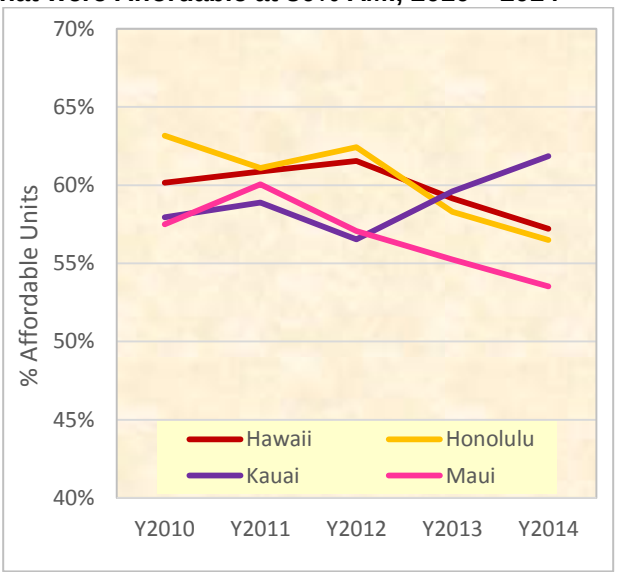
Its largest disadvantage is that it is very detailed. Rather than describing affordable housing units as those priced below $400,000, planners would need to specify target area, unit type, income target, and whether the units in question are occupied, vacant and available, or both.

It is, of course, possible to generate an affordability measurement for households with incomes below 30 percent of AMI, or for households with incomes above 180 percent of AMI.

Finally, there exists a potential for comparing the number of households (families) with specific income levels to the number of units affordable to those families based on income and household size.

As discussed in the demand section of this report, households may be able to afford to make the monthly payments for a housing unit, but cannot purchase a home because they lack sufficient funds for the down payment. It is also important, therefore, to examine the supply of affordable ownership versus rental units.

Figure 8. Percentage of Occupied Housing Units that were Affordable at 80% AMI, 2010 – 2014



Source. SMS estimates from ACS 5-year data 2010-2014.

In 2014, 30 percent of the owned housing units in Hawai‘i were affordable to households earning 80 percent of HUD AMI (30.4%). There was little variation among the counties, with Kaua‘i having slightly more affordable units (33.2%) and Maui having slightly fewer (25%).

Rental units were significantly more likely than ownership units to be affordable to low-income households. Statewide, two-thirds of the rental housing units were affordable to low income households (66.8%). Once again, the percentage of affordable units in Honolulu was lowest among the counties (65.3%).

Vacant units across the state maintained the pattern found for occupied housing units. Compared to occupied rental units, a slightly higher percentage of vacant rental units was deemed affordable (70.4%). Similarly, close to 35 percent of vacant ownership units (34.8%) were affordable, versus 30.4 percent of occupied ownership units.

III. HOUSING FORECASTS, 2015-2025

The focus of the HHPS is on planning – using housing market information to develop courses of action in housing development over the next few years. Planning's future-oriented viewpoint requires more than information on past performance. It requires a forecast of how the housing market will function in the future.

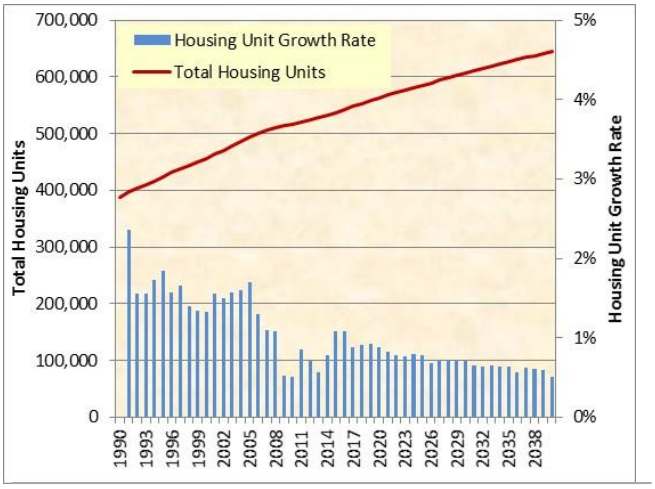
A. HOUSING SUPPLY

We measured supply in terms of housing units added each year with separate estimates for single-family and multi-family units. For past years, added units were entered as the difference between housing unit counts for two adjacent years. Supply forecasts were based on past performance of the housing market, population growth, and household formation (a function of household size over time).

1. Modeled Supply

Estimated production of new housing units for Hawai'i between 1990 and 2040 is shown in Figure 9. Historical data were taken from decennial census and ACS data, as well as authorized county building permits.

Figure 9. New Construction, State of Hawai'i, 1990-2040



Source: Hawai'i Housing Model, 2016

Market history is apparent in the supply line, with its pattern of rapid growth and longer adjustment periods. A notable drop in housing production is evident in the 2009-2010 growth rate following the Great Recession in 2008 (Figure 9).

The forecast suggests continued slow growth in Hawai'i's housing market. Specifically, it predicts slow production rates between 2016 and 2020. The percentage of growth during this period ranges from 0.88 to 1.08 percent annually.

Changing any of the underlying assumptions will alter the forecast. Increasing population growth, decreasing unemployment, and declining interest rates will all work toward increasing demand and the need for more housing units. Slower growth in any of those assumptions would decrease the need for new units.

B. HOUSING DEMAND

We estimate demand in terms of new household formation.[32] Estimating demand involves determining the number of housing units that will be required to house the net number of new households each year. The estimates are calculated for a given population (or projected population, in the case of a forecast), the population residing in households, and assumptions about the average household size (household formation). Demand estimates assume that the characteristic conditions of our housing stock, the workings of our housing market, and the accumulated impact of past market inefficiencies, are maintained throughout the

[32] Note: The discussion of demand in the previous section was based on the Demand Survey where "demand" is identified by housing consumers. Data from past Demand Surveys have been incorporated in the Housing Model. What appears here is the end result of supply and demand characteristics of the local housing market.

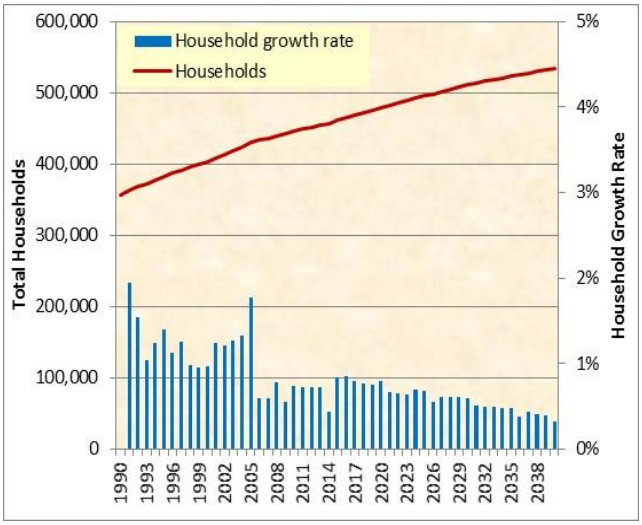
next 25 years. Finally, any demand estimate reflects the number of units required to house population growth but does not speak to whether the needed units will be built.

1. Modeled Demand Assumptions

The housing demand estimates utilize population estimates that conform to those presented by DBEDT in their latest population forecast. The most recent version is the 2040 Series.

Figure 10 presents household growth estimates for the State housing market between 1990 and 2040. The total number of households is expected to grow between 2016 and 2040, but at a slower rate than in the past. The average growth rate is projected to fall to 0.65 percent annually between 2020 and 2030, then to dip to an average of 0.45 percent per year from 2030 through 2040. Slower growth in the number of households is primarily a function of slower population growth.

Figure 10. Total Households, State of Hawai'i, 1990-2040



Source. DBEDT long range forecasts 2040

The average household size is expected to be 3.00 persons per household by 2025. To some extent, household size is limited by smaller unit sizes, but the primary causes are demographic. In-migrant household sizes are larger than those from households formed by natural growth and out-migrant households are often relatively small.

As noted earlier, the Hawai'i housing market has been cyclical over the last 40 years. We have had three major market expansions followed by periods of post-expansion adjustment. While the cyclical nature of the housing market has been a persistent feature of demand, we find no evidence that it must necessarily continue. Some major components of past run-ups, including falling interest rates, major increases in external demand, and the bubble and bust of the last run-up are not in evidence for the next five years. Hence, we accept the short increase in demand for the next period and the slower and less volatile growth to the year 2040.

Obviously, changes in model assumptions would alter results. Increasing employment would push up household incomes, shortening the current adjustment period and perhaps increasing the volume of the next rise in demand. Increasing interest rates would change the new forecast significantly, as well.

2. Demand Estimates

The estimate of housing units needed in Hawai'i for the next ten years is shown in Table 27. The figures in the table are the number of units needed between 2015 and 2025, inclusive.

Housing demand estimates recently released by DBEDT[33] focused on the number of new housing units required to accommodate new households added to the population during a specific period. The demand estimates are independent of supply estimates and do not specify that demand units will be built.

In Hawai'i, we generally agree to use the official state population estimates unless there is a tactical reason for producing an

[33] Department of Business, Economic Development & Tourism. 2015. Measuring housing demand in Hawai'i, 2015-2025. DBEDT,* Research and Economic Analysis Division, April 2015.

independent forecast. The DBEDT forecast for housing demand were deemed appropriate for expressing the need for new units in Hawai'i in the near future. For Kauai, DBEDT estimated housing demand between 2015 and 2025 to be 5,287 units, 4,419 of which were required for new households and the remainder for vacancies and seasonal units.

3. Total New Units Needed

The number of new units that would have to be built during the ten-year period between 2015 and 2025 to meet new demand generated by changing demographic and economic conditions is 64,693 (Table 27a). Some of those units will be produced by Hawai'i's housing industry (public and private) and some will not.

Table 27a summarizes the housing demand for the State and its four counties from 2015 through 2025. Table 27b presents the needed units by HUD income guidelines. HUD guidelines define the income qualifications for service under most HUD programs. Table 28 shows the same forecast distributed according to the survey income in each county as measured in the Housing Demand Survey.

C. NEEDED UNITS BY INCOME LEVEL

Table 27a. Housing Demand by Income Classification, Counties & State of Hawai'i, 2015-2025

		HUD Income Classification (% of Area Median Income)								
		Less than 30	30 to 50	50 to 60	60 to 80	80 to 120	120 to 140	140 to 180	180+	Total
State of Hawai'i		15,511	12,507	6,352	9,458	8,291	5,378	1,695	5,501	64,693
	Honolulu	6,105	4,414	2,364	4,115	4,075	2,130	867	1,778	25,848
	Maui	2,947	2,775	1,414	2,393	1,626	1,493	500	801	13,949
	Hawai'i	4,966	3,917	2,292	2,200	2,193	1,295	122	2,624	19,609
	Kaua'i	1,493	1,401	282	750	397	460	206	298	5,287
		Income Classifications								
		Less than $30k	$30k to $45k	$45k to $60k	$60k to $75k	$75k to $100k	$100k to $150k	More than $150k	Total	
State of Hawai'i		16,998	13,691	6,984	10,293	9,054	5,853	1,820	64,693	
	Honolulu	6,556	4,740	2,539	4,419	4,376	2,287	930	25,848	
	Maui	3,127	2,944	1,500	2,539	1,725	1,584	530	13,949	
	Hawai'i	5,733	4,522	2,646	2,540	2,532	1,495	142	19,609	
	Kaua'i	1,582	1,485	299	795	421	487	218	5,287	

Source: Housing Demand Survey and DBEDT Housing Demand 2015-2025

Table 27b. Housing Demand by HUD Income Classification, Counties & State of Hawai'i, 2015-2025

	HUD Income Classification (% of Area Median Income)								
	Less than 30%	30-50%	50-60%	60-80%	80-120%	120-140%	140-180%	More than 180%	Total
State of Hawaii	15,511	12,507	6,352	9,458	8,291	5,378	1,695	5,501	64,693
Ownership Units	5,611	4,503	2,584	5,404	5,468	4,669	1,446	4,787	34,472
Single-Family	4,821	3,432	2,239	4,453	3,459	3,549	1,025	3,744	26,722
Multi-Family	790	1,071	345	947	2,009	1,120	423	1,045	7,750
Rental Units	9,900	8,004	3,768	4,054	2,823	709	249	715	30,222
Single-Family	6,023	4,226	2,371	2,941	1,680	430	157	534	18,362
Multi-Family	3,877	3,778	1,397	1,113	1,143	279	92	181	11,860
Honolulu	6,105	4,414	2,364	4,115	4,075	2,130	867	1,778	25,848
Ownership Units	1,526	1,629	1,073	2,495	2,784	2,046	672	1,501	13,726
Single-Family	918	868	932	1,877	1,036	1,300	451	977	8,359
Multi-Family	608	761	141	618	1,748	746	221	524	5,367
Rental Units	4,579	2,785	1,291	1,620	1,291	84	195	277	12,122
Single-Family	1,887	550	461	882	539	30	129	213	4,691
Multi-Family	2,692	2,235	830	738	752	54	66	64	7,431
Maui	2,947	2,775	1,414	2,393	1,626	1,493	500	801	13,949
Ownership Units	1,079	824	351	1,151	1,308	1,292	469	766	7,240
Single-Family	1,022	783	234	1,022	1,112	1,032	368	610	6,183
Multi-Family	57	41	117	129	196	260	101	156	1,057
Rental Units	1,868	1,951	1,063	1,242	318	201	31	35	6,709
Single-Family	1,295	1,226	771	1,050	239	156	17	30	4,784
Multi-Family	573	725	292	192	79	45	14	6	1,926
Hawaii	4,966	3,917	2,292	2,200	2,193	1,295	122	2,624	19,609
Ownership Units	2,466	1,430	1,067	1,394	1,200	1,082	112	2,270	11,021
Single-Family	2,348	1,256	981	1,252	1,153	973	48	1,930	9,941
Multi-Family	118	174	86	142	47	109	64	340	1,080
Rental Units	2,500	2,487	1,225	806	993	213	10	355	8,589
Single-Family	2,086	1,903	981	671	722	117	1	262	6,743
Multi-Family	414	584	244	135	271	96	9	93	1,846
Kauai	1,493	1,401	282	750	397	460	206	298	5,287
Ownership Units	540	620	93	364	176	249	193	250	2,485
Single-Family	533	525	92	302	158	244	158	227	2,239
Multi-Family	7	95	1	58	18	5	37	25	246
Rental Units	953	781	189	386	221	211	13	48	2,802
Single-Family	755	547	158	338	180	127	10	29	2,144
Multi-Family	198	234	31	48	41	84	3	19	658

Source: Housing Demand Survey and DBEDT Housing Demand 2015-2025

Table 28. Housing Demand by Income Classification, Counties and State of Hawai'i, 2015-2025

	Income Classifications							
	LT $30k	$30k to $45k	$45k to $60k	$60k to $75k	$75k to $100k	$100k to $150k	More than $150k	Total
State of Hawaii	16,998	13,691	6,984	10,293	9,054	5,853	1,820	64,693
Ownership Units	4,785	6,425	2,805	6,769	7,052	5,105	1,530	34,472
Single-Family	4,215	4,615	1,821	4,841	5,497	4,463	1,269	26,722
Multi-Family	570	1,810	984	1,928	1,555	642	261	7,750
Rental Units	12,213	7,266	4,179	3,524	2,002	748	290	30,222
Single-Family	6,791	4,884	2,700	2,088	1,153	533	213	18,362
Multi-Family	5,422	2,382	1,479	1,436	849	215	77	11,860
Honolulu	6,556	4,740	2,539	4,419	4,376	2,287	930	25,848
Ownership Units	1,029	2,470	1,193	3,257	3,134	1,930	712	13,726
Single-Family	874	1,551	440	1,595	1,844	1,462	592	8,359
Multi-Family	155	919	753	1,662	1,290	468	120	5,367
Rental Units	5,527	2,270	1,346	1,162	1,242	357	218	12,122
Single-Family	1,394	1,698	331	464	478	169	157	4,691
Multi-Family	4,133	572	1,015	698	764	188	61	7,431
Maui	3,127	2,944	1,500	2,539	1,725	1,584	530	13,949
Ownership Units	904	876	619	1,580	1,257	1,490	514	7,240
Single-Family	782	690	532	1,387	1,055	1,358	379	6,183
Multi-Family	122	186	87	193	202	132	135	1,057
Rental Units	2,223	2,068	881	959	468	94	16	6,709
Single-Family	1,590	1,545	659	454	450	86	0	4,784
Multi-Family	633	523	222	505	18	8	16	1,926
Hawaii	5,733	4,522	2,646	2,540	2,532	1,495	142	19,609
Ownership Units	2,363	2,446	833	1,561	2,407	1,322	89	11,021
Single-Family	2,133	1,898	696	1,494	2,344	1,287	89	9,941
Multi-Family	230	548	137	67	63	35	0	1,080
Rental Units	3,370	2,076	1,813	979	125	173	53	8,589
Single-Family	2,900	1,020	1,595	930	72	173	53	6,743
Multi-Family	470	1,056	218	49	53	0	0	1,846
Kauai	1,582	1,485	299	795	421	487	218	5,287
Ownership Units	489	633	160	371	254	363	215	2,485
Single-Family	426	448	153	365	254	356	209	2,239
Multi-Family	63	157	7	6	0	7	6	246
Rental Units	1,093	852	139	424	167	124	3	2,802
Single-Family	907	621	115	240	153	105	3	2,144
Multi-Family	186	231	24	184	14	19	0	658

Source: Housing Demand Survey and DBEDT Housing Demand 2015-2025

As identified by the Housing Demand Survey, the 2014 median household income for the State was $72,868. The median was slightly higher for the City and County of Honolulu ($73,859). The median income for Maui and Kauaʻi counties were approximately equal ($59,799 and $58,868, respectively). At $44,876, the annual median household income for Hawaiʻi County was well below the State median.

1. Types of Units Needed

Tables 27 and 28 show the distribution of needed units by county, tenure and unit type for the next ten years. They have been estimated for each of eight market levels following U.S. Department of Housing and Urban Development (HUD) income guidelines.

The DBEDT Housing Demand 2015-2025 report was used to develop the total number of needed units by county and for the State, as a whole. The distribution of needed units by tenure, type, and market level was developed from Housing Demand Survey data.

The analysis employs the assumption that needed units are distributed according to the effective demand estimates from the survey. The detail produced in this analysis will be useful in a variety of housing planning efforts in the next ten years. It is relevant, reliable, and crucial to housing planning.

Effective demand includes only Hawaiʻi residents who are planning to move to a unit in the State of Hawaiʻi in the next ten years. The analysis for Tables 27 and 28 did not account for people who are currently doubled-up for economic reasons.

Not surprisingly, in a very high-priced housing market like Hawaiʻi's the number of needed units is relatively high. The lion's share of the needed units, however, is concentrated at the lowest HUD income levels. This finding suggests that the market is more effective in producing high-end units than low-end units. Inefficiencies are exacerbated in periods of rapid market expansion when fewer low-end units are built. More middle-market and low-end units are built during periods of market adjustment.

One conclusion of the 2016 modeling exercise supports major conclusions of every housing study and blue-ribbon housing task force conducted in Hawaiʻi for the last twenty years – what we need is more affordable housing.

The estimates in the two tables above reflect the preferences of Hawaiʻi's likely movers, but do not account for their willingness to accept alternatives or their financial qualifications make their preferred move. As was noted in the prior section on qualified demand, not every household is financially prepared to pursue their preferred housing situation.

A portion of demand survey respondents who indicated their preference to purchase their next residence conceded that they might have to rent instead. Similarly, several households that intend to buy a single-family home when they move noted that they would consider buying a multi-family dwelling if they could not find a single-family unit they could afford. Finally, a percentage of the survey respondents who indicated that they would be purchasing their next unit also reported that their current financial situation was incompatible with that goal (currently living in public housing, receiving Section 8 assistance, or with no money for a down payment).

Additionally, units were not included in the needed housing unit counts that would be needed to accommodate those respondent households that are currently doubled-up (and are, in reality, two households).

Rather than simply a re-allocation of the needed units by tenure or type, the number of units needed to house those households that are currently doubled-up or include hidden homeless persons would be *in addition to* the 64,693 units needed statewide.

Similarly, housing units that might result from homeless persons re-entering the housing market are not included in Tables 27 or 28. By definition, homeless persons are not included in

housing demand estimates derived from data on households or housing units. While the Housing Demand Survey did make provision for including homeless persons by incorporating cell phone interviews, very few homeless persons were identified in the survey this year.

Applying any one of these possible adjustments to the needed units tables will result in a shift in the total number and type of housing units needed to accommodate Hawai'i's residents by 2025. For the reasons detailed above, the needed units tables cannot be regarded as the final statement on the number and type of units required to house Hawai'i's residents between now and 2025.

2. Units for Elderly Housing

Analysis was also conducted to identify the subset of total needed units that would be required to accommodate elderly households, that is, households with one or more persons 60 years of age or older, no children under the age of 18, and no persons other than immediate family. Of the 64,693 units needed for households between 2015 and 2025, just under 9 percent were for elderly households statewide (5,639 units; Table 29). All other needed housing units, referenced here as "family units" would be for the use of all other types of households.

Close to six out of ten units are needed for elderly households are in Honolulu County (3,213 units). Hawai'i County needed 19 percent of the elderly units, followed by Maui County with 17 percent. The fewest units needed to accommodate Hawai'i's elderly households were on Kaua'i (8%).

Considering just the units needed for elderly households, about one-third (1,889 units) are needed for low- and moderate-income households (80% AMI or less). For these, the pattern is different across counties. In Kaua'i County, only 8 percent of the units needed for elderly households are in the lower income range. Close to 40 percent of the needed elderly units for Honolulu, however, are for households earning 80 percent AMI or less.

Of the units needed for elderly households statewide demand is evenly split between ownership and rental housing units. This was similar across all the counties except for Hawai'i County, where the demand for ownership represents 67 percent of the needed units.

As was found for the tenure of the units needed for elderly households, the demand for single-family versus multi-family units was almost evenly distributed. Of the 5,639 needed elderly units, there was demand for 2,690 (48%) single-family dwellings. Demand for single-family units was slightly lower among elderly households in Honolulu (45%) and Maui (45%) and slightly higher among elderly households in Hawaii County (67%) and Kaua'i County (53%).

Table 29. Housing Demand by HUD Income Classification, Elderly Persons, Hawai'i, 2015-2025

	HUD Income Classification (% of Area Median Income)								
	Less than 30%	30-50%	50-60%	60-80%	80-120%	120-140%	140-180%	More than 180%	Total
State of Hawaii	770	201	188	730	674	1,078	497	1,501	5,639
Ownership Units	185	77	117	232	533	466	188	1,008	2,806
Single-Family	185	46	51	227	445	95	24	541	1,614
Multi-Family	0	31	66	5	88	371	164	467	1,192
Rental Units	585	124	71	498	141	612	309	493	2,833
Single-Family	52	124	3	140	0	558	0	199	1,076
Multi-Family	533	0	68	358	141	54	309	294	1,757
Honolulu	703	25	66	465	450	738	240	526	3,213
Ownership Units	170	25	66	171	389	275	36	327	1,459
Single-Family	170	0	0	171	378	39	0	25	783
Multi-Family	0	25	66	0	11	236	36	302	676
Rental Units	533	0	0	294	61	463	204	199	1,754
Single-Family	0	0	0	0	0	463	0	199	662
Multi-Family	533	0	0	294	61	0	204	0	1,092
Maui	46	93	11	178	167	107	63	282	947
Ownership Units	0	19	0	61	123	24	16	173	416
Single-Family	0	13	0	56	46	0	16	136	267
Multi-Family	0	6	0	5	77	24	0	37	149
Rental Units	46	74	11	117	44	83	47	109	531
Single-Family	46	74	0	56	0	83	0	0	259
Multi-Family	0	0	11	61	44	0	47	109	272
Hawaii	0	18	108	84	45	111	108	577	1,051
Ownership Units	0	18	51	0	21	111	82	420	703
Single-Family	0	18	51	0	21	0	0	336	426
Multi-Family	0	0	0	0	0	111	82	84	277
Rental Units	0	0	57	84	24	0	26	157	348
Single-Family	0	0	0	84	0	0	0	0	84
Multi-Family	0	0	57	0	24	0	26	157	264
Kauai	21	65	3	3	12	122	86	116	428
Ownership Units	15	15	0	0	0	56	54	88	228
Single-Family	15	15	0	0	0	56	8	44	138
Multi-Family	0	0	0	0	0	0	46	44	90
Rental Units	6	50	3	3	12	66	32	28	200
Single-Family	6	50	3	0	0	12	0	0	71
Multi-Family	0	0	0	3	12	54	32	28	129

Source: Housing Demand Survey and DBEDT Housing Demand 2015-2025.

IV. HOUSING ISSUES

A set of housing issues associated with the general housing market activity in Hawai'i were selected for special attention in 2016. Those included the impact of the military on housing in Hawai'i, the impact of the visitor industry on residential housing, homelessness as a housing issue, and descriptive information on housing for persons with special needs.

A. HOUSING THE MILITARY

The military presence in Hawai'i has been discussed at length in the state, especially with reference to our housing issues. In this section we summarize the salient issues that been bought forth over the last several years.

1. Military Population

The military are an important part of Hawaii's population. In 2015, there were 46,764 service personnel and 64,119 military dependents living in Hawai'i, about 7.8 percent of the population. Nearly all (98.7%) were located on O'ahu.[34] Among the states, Hawai'i had the 7th highest number of military personnel and dependents per capita, behind California, Virginia, Texas, North Carolina, Georgia, and Florida.

From the end of World War II to 1990, the number of military personnel in Hawai'i grew slowly and steadily. Significant drawdowns began in 1990 and lasted through 1999. The count remained stable at about 35,000 through 2007 and in recent years has been rising rapidly to a high of about 53,000 personnel in 2013.

In the past four years, the number of military personnel has been declining. In July 2015, the Army announced plans to cut 40,000 soldiers and 17,000 civilian personnel from its payroll over the next two years, a reduction that will affect all its domestic and foreign posts. While the full impact on Hawai'i is unknown, the Army confirmed plans to reduce the number of soldiers based at Schofield Barracks by 1,200.

Figure 11. Active Military Personnel, State of Hawai'i, 1983-2015

Source. Defense Manpower Data Center, Office of the Secretary of Defense, U.S. Department of Defense.

According to the Army's 2020 Force Structure Realignment, Schofield Barracks and Fort Shafter could change dramatically over the next several years. The Army will potentially move 16,000 troops out of Schofield and another 3,800 troops from Shafter by 2020.

The other services have also been affected. The Marines are currently in a holding pattern while their status is being reviewed at each budget cycle, but under sequestration. The total force could be reduced from 184,000 to 175,000. The Air Force, the smallest branch of the US military, is also subject to personnel cuts.

The military's impact on housing demand depends on the number of military personnel and dependents housed off base. About 65 to 70 percent of military service members nationwide live off base in private sector housing.[35] Applying that figure to Hawai'i's 2015 military population would produce a need for about 31,500 housing

[34] Table 12.03-Selected Labor Force and Commuting Characteristics, by Geographic Area

[35] Military Housing Privatization. *FAQs*. Office of the Deputy Under Secretary of Defense, Installations and Environment, downloaded March 20, 2016, from http://www.acq.osd.mil/housing/faqs.htm#2.

units, or 6 percent of the state's housing stock. Locally, military sources from all branches of the armed forces offer a lower estimate, reporting that roughly 22,000 military personnel and families live in off-base housing.[36]

While these estimates differ significantly, it is clear that the military presence in Hawai'i affects demand for housing; at least on O'ahu. Their numbers represent external demand for housing units that causes upward pressure on housing prices and rents, especially in a market with major limits on supply.

External demand will decrease if the military's plans for reduction are realized. That will tend to reduce housing prices and rents on O'ahu, especially in areas near large military bases.

2. Military Housing

If Hawai'i's military population generates additional demand for housing units on O'ahu, it also adds to the Island's housing supply. Prior to 1996, the military's contribution to the housing stock was limited to the number of on-base housing units available to the troops and their families. Since its inception, however, the Military Housing Privatization Initiative (MHPI) has greatly increased the contribution of the military to the housing stock of the host state.

Between October 2004 and September 2010, the MHPI added 17,169 housing units to the housing stock in Hawai'i.[37] During 2004-2005, the 9,250 new units constructed by the military accounted for 61.3 percent of the state's new housing units for that period. Similarly, of the 12,821 units added to Hawai'i's housing stock in 2007-2008, 7,675 were built as a result of MHPI projects (59.9%). The final 244 MPHI units built in 2010 accounted for just 6.3 percent of the new units built that year.

There are several summaries of unit production under the MHPI. The number of units to be produced differs from source to source and from year to year. Regardless of the source, however, all support the conclusion that MPHI contributed significantly to housing production on O'ahu between 2005 and the present. During the last ten years, civilian housing stock growth rates averaged about one-half of one percent per year. Military housing stock grew by an average of 5.9 percent per annum during the same period.

3. Basic Allowance for Housing

The net impact of the demand and supply on O'ahu's housing prices and rents is further shaped by the military's support of personnel who prefer to live off base. The Basic Allowance for Housing (BAH) is an allowance given to military personnel who do not reside in government quarters or barracks. A frequent lament is that the military drives up rental rates on O'ahu.[38] To evaluate this claim, several factors must be considered.

Overall, the BAH has been increasing over the past 20 years, with notable increases from 2013 to 2015. Table 30 displays the BAH for O'ahu from 1998 through 2016 for the lowest ranking enlisted military personnel and the highest-ranking military officers, with and without dependents. As the majority of military service personnel in 2016 are classified as levels E-3 to E-6 (77.3%)[39], the average BAH for those personnel (Table 30) will apply to most military stationed in Hawai'i.

In 2016, the BAH for the most junior enlisted personnel on O'ahu ranged from $1,959 (without dependents) to $2,613 (with dependents). For the highest-ranking military officers, BAH was between $3,447 (without dependents) and $4,161 (with dependents). Three points of comparison deserve attention here.

[36] Living Hawai'i: How Military Policies Drive Up Rents on O'ahu. Eric Pape. *Civil Beat,* June 17, 2015.

[37] Military Housing Privatization, op.cit, downloaded March 20, 2016 http://www.acq.osd.mil/housing/state_hi.htm.

[38] http://www.pressreader.com/usa/honolulu-star-advertiser/20160111/281509340177725/textview; http://www.civilbeat.com/2015/06/living-Hawai'i-how-military-policies-drive-up-rents-on-O'ahu/.

[39] https://www.dmdc.osd.mil/appj/dwp/dwp_reports.jsp

Table 30. Basic Allowance for Housing, 2000-2016

	Hawai'i Basic Allowance for Housing (BAH)			
	Lowest Ranking Enlisted (E-1)		Highest Ranking Officer (O-7+)	
	Without Dependents	With Dependents	Without Dependents	With Dependents
2000	$721	$871	$1,479	$1,705
2001	$794	$1,031	$1,739	$1,816
2002	$801	$1,113	$1,887	$2,010
2003	$917	$1,279	$2,093	$2,277
2004	$917	$1,315	$2,139	$2,408
2005	$1,161	$1,698	$2,436	$3,127
2006	$1,355	$1,768	$2,724	$3,388
2007	$1,491	$1,925	$2,860	$3,419
2008	$1,669	$1,985	$2,824	$3,455
2009	$1,555	$1,949	$2,686	$3,401
2010	$1,572	$2,001	$2,799	$3,201
2011	$1,512	$2,016	$2,988	$3,549
2012	$1,461	$1,860	$2,964	$3,423
2013	$1,680	$2,172	$3,204	$3,933
2014	$1,956	$2,607	$3,684	$4,218
2015	$2,190	$2,922	$3,858	$4,347
2016	$1,959	$2,613	$3,447	$4,161

Source: Department of Defense, Defense Travel Management Office, downloaded from http://www.defensetravel.dod.mil/site/bahCalc.cfm, 3/3/2016.

First, it seems that the BAH will allow military members to pay higher rental rates than other Hawai'i residents. Based on a 2014 O'ahu median household income of $73,581, a monthly housing payment of $1,840 would be affordable[40] for non-military households.

The BAH is intended to cover more than monthly rents, however. BAH is calculated to include the costs of rent, refuse collection, water and sewer, common area grounds, facility care, electric, gas, and other heating costs, and renter's insurance. We might expect it to be somewhat higher than contract rents paid by civilian households. With that in mind, the BAH for enlisted personnel was $117 higher than the affordable rent in 2016: not overly alarming. The BAH for enlisted personnel with dependents was $773 higher than civilian rents. At the top end of the BAH, the allowance was more than double the average local rent.

Second, it is likely that the impact of the BAH on O'ahu housing prices occurs primarily in neighborhoods near large military bases. In 2016, the vast majority of military personnel on O'ahu were stationed at one of four bases: Kaneohe Bay, Schofield, Pearl Harbor, or Hickam. The 2016 median rent[41] for a two-bedroom unit near Kaneohe Bay[42] was $2,000 (mean=$2,301). Near Schofield Barracks the median rent for a two-bedroom unit was $1,500 (mean=$1,537). Near Hickam Air Force Base the median rent was $1,400 (mean=$1,507) and around Pearl Harbor the median rent was $1,700 (mean=$1,742). Even the lowest level military personnel can comfortably afford a rental unit near their duty station. The BAH available to officers would allow them to select even larger rental units with more amenities.

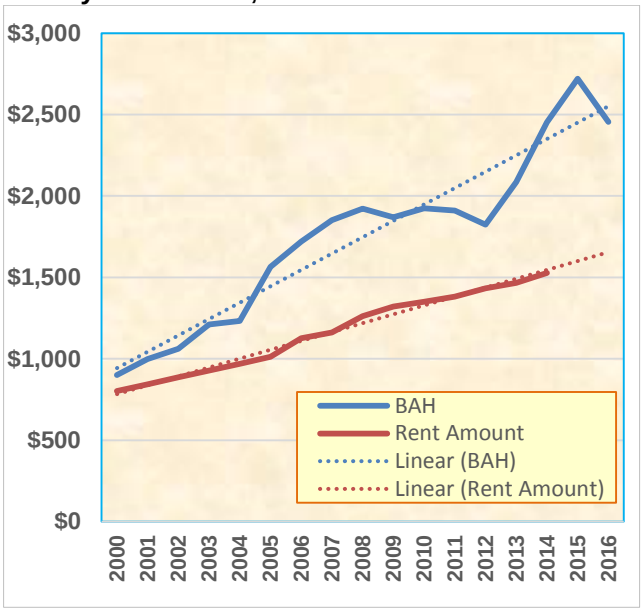
[40] Assumes the monthly rent payment is no greater than 30 percent of monthly income.

[41] https://www.rentometer.com/results/I32ed2Krldw

[42] Zip Code 96863. For Schofield Barracks we used Zip Code area 96857, 96853 for Hickam AFB, and 96860 for Pearl Harbor.

Third, there is a claim that the BAH has risen faster than median gross rents[43] on O'ahu. Figure 12 shows the average BAH for E-3 through E-6 personnel alongside O'ahu median gross rents from 2000 to present. The dotted linear trend lines indicate that both the average BAH amounts and the median gross rental rates increased over time, but the BAH increased at a greater rate.

Figure 12. Average BAH, E-3 through E-6 Military Personnel and Median Gross Rents, City and County of Honolulu, 2000-2016



Source: For median gross rent, Decennial Census 2000, ACS 1-year 2005-2006, ACS 3-year estimates for 2007-2008, ACS 5-year estimates for 2009-2014. For BAH, see http://www.defensetravel.dod.mil/site/bahCalc.cfm

The BAH is recalculated each year based on current rental rates and inflation or cost of living increases. That means military households get higher BAH in most years. Because they can pay more, landlords charge more, which causes the BAH to continue to climb in a cycle that continues to drive rents upward.

In summary, the military presence in Hawai'i has important impacts on Hawai'i's housing market.

With respect to demand, the military presence in Hawai'i increases demand for housing and in a supply-inelastic market will push prices up. Military personnel and their dependents increased by 5 percent in 2016 and generated the need for about 22,000 housing units in O'ahu's civilian housing market.

With respect to supply, military housing unit production has been greater than production in the civilian sector. New units have increased O'ahu's housing stock by as many as 15,000 units. That would generally work to reduce housing prices.

Military price supports for personnel and dependents will push prices upward if they run ahead of the local housing market. The BAH probably increases prices. It has increased at a greater rate than local housing prices at least since 2000. After 2012, the rate of growth nearly doubled and it was not until 2016 that any adjustment occurred.

If the planned force reductions occur, demand will decrease and reduce upward pressure on price. Supply, however will continue to increase according to the MHPI contracts, further reducing rent inflation. In addition, the severity of the planned force reductions may trigger the Tenant Waterfall Policy[44], opening military units to households that are currently housed in the community. That will further alleviate demand and reduce prices.

[43] Because they include utilities, gross rents provide a more reasonable comparison with BAH than do contract or asking (advertised) rents.

[44] This policy stipulates that, in order to maintain occupancy rates and financial viability of on-base privatized housing, the property managers have the ability to open units to households other than active duty service members and their dependents. This may include military members who would typically live in barracks, retired military personnel, civilian personnel, and the general public.

B. HOMELESSNESS IN HAWAIʻI

HHPS first included homelessness in its list of housing issues in 2003. Originally intended to gather descriptive information, the homelessness component is now a major part of the study.

From the start, HHPS has viewed homelessness as a housing issue. We followed early researchers who said homelessness grew out of problems affecting housing markets, not poverty or disenfranchisement (Tucker 1991). They defined homelessness as "a housing shortage complicated by poverty" (Wright and Lam, 1987). These structuralists wrote that homelessness was caused by the loss of affordable rental housing units and growing numbers of poor people in large cities. The high rates of personal disabilities of homeless people serve as selection factors, filtering disadvantaged persons into the homeless classification. They are not the *causes* of homelessness.

Later, as Point-in-Time counts became available and homeless shelters provided convenient, captive populations for social scientists and health professions, the literature turned toward studies of various pathologies that existed there. Main (2008), for instance, argued that policy makers must give greater weight to personal disabilities of homeless persons.

By the middle of the last decade, however, the tide turned back to the structuralist principles. B.A. Lee et al. (2003) was the first to test alternative causes of homeless -- local housing markets, economic conditions, demographic composition, the size of the safety net, and climate, as precursors of homelessness. They found that median rent level was the dominant factor, followed by the percent of single-family households. Fertig and Reingold (2008) found that local housing and labor market conditions dominated. They recommended providing low-income housing as a solution. Donald Linhorst (2015) tested deinstitutionalization and low-income housing shortage as causes of homelessness. He found deinstitutionalization was not a sufficient cause for homelessness and called upon mental health policy makers to take a lead role in developing affordable housing.

Social historians point out that low-end housing units began to disappear from housing markets during the eighties. We lost single-room occupancy (SRO), rooming houses, dilapidated homes, as well as temporary housing units and informal or squatters' housing. Units were lost to the new housing movements of the eighties -- deterioration, abandonment, destruction, redevelopment, gentrification, and more stringent regulations and codes. All worked toward eliminating low-end housing units, drove up the quality of the housing stock, and increased housing prices. It was about that time, during the mid-1980s, that homelessness surfaced as a public issue (Shlomo, 2000).

Some also believed that the plight of the poor worsened at this time – that unemployment lightened their wallets, and their buying power slipped (Shlomo, 2000). The issue was not that there were more poor people or that people who were not poor before suddenly became poor. Rather, low-end housing units disappeared and the poor were without units to rent.

Another group of structuralists answered those who believed that homeless persons were homeless because they had physical or mental impairments, or were dependent on drugs or alcohol. Pathologies, they wrote, were more prominent among the homeless because the market sorting mechanism relegated more of them to the homeless state. But, as Wright and Rubin (1991) argued, "Even if there was a way to stabilize the mentally ill homeless, or treat the alcoholic and drug-addicted homeless, or reintegrate the estranged homeless with their families and friends, almost all would still be poor. As poor people, they would then face the same housing problem that all poor people face – an insufficient and dwindling supply of low-income housing."

In Hawaiʻi, homelessness is affected first by our high-priced, volatile, housing market with its very high demand and inelastic housing supply. HHPS 2016 continues to adopt the position that housing is the primary driver of homelessness and that poverty and pathology are secondary issues (see HHPS 2006, 2011). That viewpoint is also reflected in Hawaiʻi's primary source of housing planning, the Consolidated Plan (HHFDC 2010).

In recent months, homelessness has risen to one of the most visible issues in the State. At the end of 2015, The People's Pulse[45] reported that homelessness had risen 11 percentage points to become the second most serious problem facing our society (overall economic conditions remains the top issue). In the first six months of 2016, the topic was prominent in the news, the focus of deliberations at the State Legislature and in County Councils, and occupied the attention and resources of state and county administrative agencies.

Finally, Housing First policies adopted by HUD and the majority of homeless programs across the nation are fully consistent with homelessness as a housing issue.

1. Definition

The definition of homelessness has been refined a bit since the last HHPS. HUD has added four categories of homelessness in its recent Final Rule Defining Homeless.[46]

1. Individuals and families who lack a fixed, regular, and adequate nighttime residence including an individual who is exiting an institution where he or she resided for 90 days or less and who resided in an emergency shelter or a place not meant for human habitation immediately before entering that institution;

2. Individuals and families who will imminently lose their primary nighttime residence;

3. Unaccompanied youth and families with children and youth who are defined as homeless under other federal statutes who do not otherwise qualify as homeless under this definition; and

4. Individuals and families fleeing, or attempting to flee, domestic violence, dating violence, sexual assault, stalking, or other dangerous, life-threatening conditions related to violence against an individual or family member.

There have also been changes to the general approach to homelessness and the programs needed to address the problem. Specifically, most programs in Hawai'i and across the nation have adopted the Housing First model for the continuum of care. Housing First posits that homeless persons in need of services are best served by providing housing first, then services. The philosophy was consistent with homelessness as a housing problem. The two major new programs used to address Housing First were rapid rehousing and permanent supportive housing. Rapid rehousing is an effort to provide financial assistance and services to prevent individuals and families from becoming homeless and help those who are experiencing homelessness to be quickly re-housed and stabilized. Permanent supportive housing provides ongoing shelter with appropriate services for persons with higher acuity. This was consistent with the realization that some of our citizens have problems that will render them incapable of providing for their own shelter.

There were also changes to the homeless data system. HUD made improvements to the national Homeless Management Information System (HMIS)[47] and Hawai'i significantly revamped the local HMIS. The improvements were applauded even though they may cause minor series discontinuity. At the same time, changes to definitions, treatment theories, program design, and even the data needed to plan and evaluate homeless programs, are not new. They have been a familiar part of the homeless services network since the eighties.

[45] http://www.omnitrakgroup.com/pdf/PulseWinter2015.pdf

[46] McKinney-Vento Homeless Assistance Act. HUD's Final Rule implementing the new definition at 24 CFR Part 91, 582 and 583. D*efinition above reflects the changes.*

[47] The Homeless Management Information System is a centralized electronic data system to which homeless service providers receiving State or Federal funds submit intake and exit data on clients they serve. HMIS includes data on those individuals who accessed some form of homeless service, including prevention and outreach services. The Homeless Service Utilization Report, produced by the Center on the Family at the University of Hawai`i and the Hawai`i Department of Human Services (DHS), provides information on homeless persons served in shelter and outreach programs during the year.

2. Homeless Persons and Families

According to the Point-in-Time Count[48], there were 7,620 homeless persons in Hawai'i on any given night in 2015 (Table 31). The 2015 State count was up from 2014 by about 10.1 percent. All of that growth was due to an increase in unsheltered homeless persons (24%). In 2015, Hawai'i had the highest *per capita* rate of homelessness among the 50 states – 53.7 persons per 100,000.

In Honolulu County, the nightly count was 5,126, which accounted for approximately 67 percent of the total number of homeless persons in Hawai'i. About 58 percent were sheltered and 42 percent were sleeping outside. The number of homeless persons in each of Hawai'i's four counties is shown in Table 32.

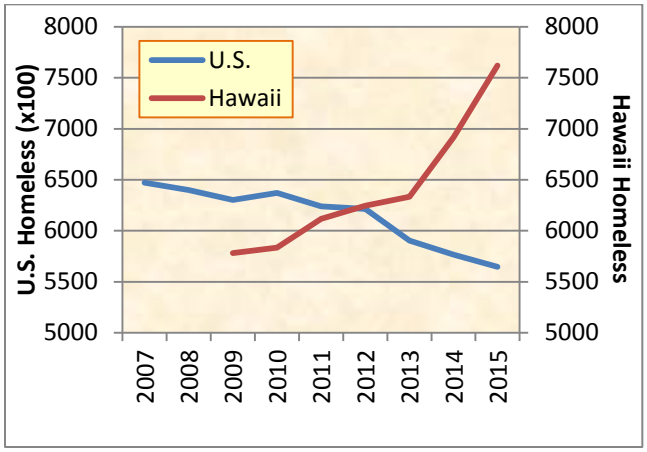
Table 31. Homeless Persons by County, 2009-2015

	County				
	Hawai'i	Honolulu	Kaua'i	Maui	State
2009	936	3,638	205	1,003	5,782
2010	599	4,171	273	791	5,834
2011	566	4,234	336	1,052	6,188
2012	617	4,353	402	874	6,246
2013	557	4,556	346	876	6,335
2014	869	4,712	378	959	6,918
2015	1,021	5,126	336	1,137	7,620

Source: State of Hawai'i Homeless Point-in-time Count 2015

What sets us apart even more is the rate of growth in homelessness. Across the nation, the number of homeless people has been decreasing steadily since 2009. In Hawai'i, however, homelessness has been growing during that period. In 2015, only 14 states had positive homeless growth rates. Hawai'i was 6th on the list behind New York, Oregon, Alaska, South Dakota, and Wyoming. Even the District of Columbia's homeless growth rate was down in 2015.

Figure 13. Homeless PIT Count, U.S. and Hawai'i, 2009-2015



Source: National Alliance to End Homelessness, The State of Homelessness in America, 2016, Figure 1.3, p.9.

[48] The PIT Count reflects the number of sheltered and unsheltered homeless persons on a given night, but does not include hidden homeless persons or individuals accessing other forms of homeless services.

Table 32. Homeless PIT Counts, State and Counties of Hawai'i, 2009-2015

	Year							Pct.Change 2014-2015
	2009	2010	2011	2012	2013	2014	2015	
Sheltered	3,268	3,535	3,632	3,726	3,745	3,813	3,666	-0.9%
O'ahu	2,445	2,797	2,912	3,035	3,091	3,079	2,964	-3.7%
Maui	422	392	394	420	421	445	505	13.5%
Hawai'i	321	286	229	170	160	211	220	4.3%
Kaua'i	80	60	97	101	73	78	88	13.5%
Unsheltered	2,514	2,299	2,556	2,520	2,590	3,105	3,843	23.8%
O'ahu	1,193	1,374	1,322	1,318	1,465	1,633	2,162	32.4%
Maui	581	399	658	454	455	514	632	23.0%
Hawai'i	615	313	337	447	397	658	801	21.7%
Kaua'i	125	213	239	301	273	300	248	-17.3%
Total	5,782	5,834	6,188	6,246	6,335	6,918	7,620	10.1%
O'ahu	3,638	4,171	4,234	4,353	4,556	4,712	5,126	8.8%
Maui	1,003	791	1,052	874	876	959	1,137	18.6%
Hawai'i	936	599	566	617	557	869	1,021	17.5%
Kaua'i	205	273	336	402	346	378	336	-11.1%

Source: State of Hawai'i PIT Counts, 2009-2015.

Table 33. Homeless Service Clients by County, FY 2008-2015

	Year								Pct. Change 2014-2015
	2008	2009	2010	2011	2012	2013	2014	2015	
Sheltered	6,733	7,501	7,649	8,299	8,507	8,699	8,574	8,844	3.1%
O'ahu	5,075	5,311	5,678	6,211	6,305	6,234	6,039	6,364	5.4%
Maui	1,189	1,116	1,017	1,154	1,297	1,557	1,488	1,345	-9.6%
Hawai'i	420	679	623	622	574	565	746	783	5.0%
Kaua'i	49	395	331	312	331	343	341	352	3.2%
Unsheltered	6,777	7,506	7,997	8,266	7,804	7,415	7,608	8,030	5.5%
O'ahu	4,167	4,987	5,368	5,225	4,949	4,837	4,391	4,755	8.3%
Maui	1,446	1,293	1,163	1,580	1,407	1,328	1,488	1,384	-7.0%
Hawai'i	763	846	1,092	1,098	1,063	832	1,401	1,514	8.1%
Kaua'i	401	380	374	363	385	418	328	377	14.9%
Total	12,445	13,717	14,653	14,200	13,980	13,853	14,283	14,954	4.7%
O'ahu	8,412	9,422	10432	9,781	9,650	9,693	9,548	10,257	7.4%
Maui	2,201	2,204	2,069	2,492	2,358	2,277	2,332	2,206	-5.4%
Hawai'i	1,204	1,421	1,555	1,422	1,336	1,184	1,770	1,829	3.3%
Kaua'i	618	670	597	595	636	699	632	662	4.7%

Source: HMIS, Homeless Service Utilization Report, 2009-2015.

3. Homeless Persons Served

According to Hawai'i's HMIS, our homeless services programs served nearly 15,000 unduplicated individuals in 2015. HMIS counts persons seeking services needed to deal with their homelessness. So, while PIT counts tell us that there were 7,620 homeless people in the State on a given day during the year, HMIS tell us there were 14,954 persons who were homeless during the year (Table 33).

a. Numbers

The number of individuals served by homeless service programs statewide was up about 4.7 percent over 2014, following a 3.1 percent increase the year before. The increase was less than the 10 percent we saw in the PIT counts, but was consistent with the pattern that has characterized homelessness in Hawai'i for the past decade.

Statewide, homeless shelter programs served 148,844 individuals. Among these, 42 percent were people in families and 58 percent were unattached individuals in 2015. The numbers have been rising since 2009 and increased by 3.6 percent between 2014 and 2015. In the City & County of Honolulu, there were 6,364 sheltered persons served in 2015, up 5.4 percent since 2014.

About 47 percent of services were delivered to 8,030 unsheltered homeless persons. Roughly 28 percent of those were in families, and 72 percent were unattached individuals. The numbers have been relatively stable since 2009, but increased by 5.6 percent in 2015.

The general pattern of PIT count and HMIS statistics were very similar between 2011 and 2015. Numbers have been rising and began rising at a faster pace after 2013.

b. Characteristics

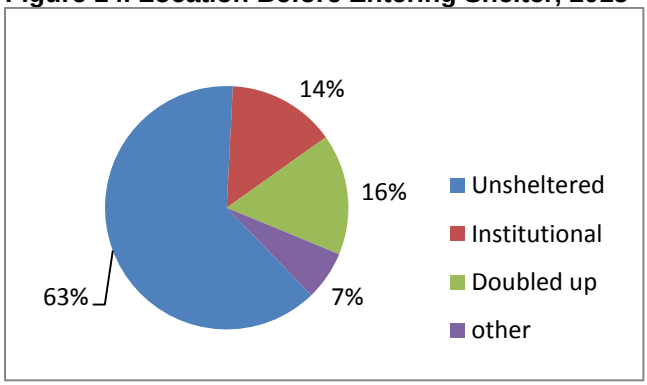
In general, homeless persons and families are somewhat less established or advantaged than the general population. They are younger, less likely to be married, have lower incomes, and are somewhat less likely to be employed full-time. HMIS data also show their number to include more males than females (57% vs. 43% in 2015). There are disproportionately greater numbers of Marshallese, Micronesians, other Pacific Islanders, African Americans, and Native Americans who are homeless. They made up about 28 percent of Hawai'i's HMIS clients last year.

Caucasians made up about 29 percent of homeless persons served and Filipinos 5.5 percent – both less than their percent of the population as a whole.

Native Hawaiians and Part-Native Hawaiians made up 30.5 percent of homeless persons in 2015 and that was nearly 50 percent higher than their proportion of the State population.

HMIS also gathered information on the living situation before homeless people enter shelters (Figure 14). More than 60 percent of them were on the streets (unsheltered homeless persons) before they entered the shelter.

Figure 14. Location Before Entering Shelter, 2015



About 16 percent of sheltered homeless people came directly from standard housing situations. Nearly all of those were doubled-up with family or friends.

Of the 14,954 homeless persons served in 2015, HMIS tells us that 5,717 (38%) were newly homeless this year. The remainder were either still in the program from last year or had been housed and then returned to the homeless state.

Of those 5,717 newly homeless persons, about 63 percent had been living as unsheltered homeless persons. Smaller proportions had been doubled up (16%) and 14 percent had

been housed in other public institutions (prisons, hospitals, shelters, etc.).
Many homeless persons provided a zip code for their former residence. Using those data, we estimated that 615 homeless households came directly from an out-of-state location to become homeless in Hawai'i (about 4% of all homeless persons).[49]

4. Hidden Homeless

According to the U.S. Census, doubled-up households are households in which more than one family shares accommodations. That includes multigenerational families (two or more families or groups of persons related by birth, marriage or adoption) and unrelated families (two or more families or groups whose members are not related by birth, marriage, or adoption).

The HHPS defines hidden homeless persons as those who are doubled up for economic rather than social or familial reasons. We exclude households sharing accommodations because they prefer to live as extended families.

The method of estimating the number of hidden homeless is complicated and based on several Housing Demand Survey questions. Most important was the question: "Is there anyone living in your home who would like to move out but does not have the resources to buy or rent their own place?" Respondents who answered affirmatively were asked how many individuals in the household fit that description. Results are shown in Table 34.

In the City and County of Honolulu, 2015 counts for hidden homeless and at-risk[50] of homelessness were 26,562 and 96,818 households respectively. The number decreased since 2011 by about 0.6 percent and 3.4 percent, respectively.

In all four counties, hidden homeless and those at risk of homelessness were more likely to be people who were younger, non-Asian, relatively recent arrivals to our state, and persons with fewer economic resources. The at-risk group included a disproportionately higher number of individuals who had been in Hawai'i less than 10 years. As expected for households with hidden homeless, the average size of the households was 4.5 persons statewide.

Hidden homeless households were once again likely to be living in units owned by a member of the household. That is, it was more common to be doubled up with family members than with unrelated individuals. This should not be taken as evidence that hidden homeless households are financially more stable than other households. In 2015, we again found that more hidden homeless respondents wanted to move in the next five years (43.4% compared to 30%). Further, hidden homeless households had lower income per household member and were less likely to have incomes in excess of $25,000 per person (45.3% compared to 22%).

5. Risk of Homelessness

In 2016, demand survey respondents were also asked how long they could stay in their current residence if they were to lose their primary source of household income. About 20.9 percent of Hawai'i households reported that losing three or more paychecks in a row would force them out of their homes without recourse. That was lower than the 24 percent recorded in 2011. Those households were then asked what they would do if they were forced to move out of your homes. Results are shown in Table 35.

[49] 3,077 newcomer households provided a valid zip code for their former residence. 10.76 percent of these provided zip codes from outside the State of Hawai'i and 10.76 percent of 5,717 = 615.

[50] Households in which members would become homeless in less than three months if they suddenly lost their primary source of income. Also called "precariously housed," these people are three monthly paychecks away from homelessness.

Table 34. At-Risk and Hidden Homeless Households, State and Counties of Hawai'i, 2016

		At-Risk of Homelessness		Hidden Homelessness	
		Households Not at risk of homelessness	Households at risk of homelessness	Not Hidden Homeless Households	Hidden Homeless Households
County	Hawai'i	78.4%	21.6%	95.0%	5.0%
	Honolulu	80.1%	19.9%	94.1%	5.9%
	Kaua'i	74.4%	25.6%	94.0%	6.0%
	Maui	76.1%	23.9%	94.2%	5.8%
State		79.1%	20.9%	94.3%	5.7%

Source: HHPS Demand Survey, 2016.

Table 35. Expected Condition if Forced to Move Out of Housing Unit, by County, 2016

	County				
	Hawai'i	Honolulu	Kaua'i	Maui	State
1. Would be homeless, unsheltered	21.6%	19.9%	25.6%	23.9%	20.9%
2. Would seek help from family, agencies	22.4%	24.8%	25.4%	26.3%	24.7%
3. Would depend on other resources, persons	34.3%	30.3%	31.2%	34.7%	31.5%
4. Don't know what I would do	21.6%	25.0%	17.8%	15.1%	23.0%

Source: HHPS Demand Survey, 2016.

Other respondents were confident they would get help from family and friends, or from government or private agencies. They might temporarily need shelter or financial assistance, but they would not become homeless.

A third group told us there was no way they would become homeless or need assistance. They said that losing the income of the chief wage earner would not mean they couldn't stay in their housing unit. They had other resources, including savings, investments, or other real estate they could use.

The last group said they did not know what they would do. They did not deny that losing their home was a possibility, but said they did not know where they would go or how they would handle the situation.

People classified as at-risk of homelessness were paying low rents or had no mortgages. Many were already doubled up or expected to be doubled up the next time they move. Often, they were "less established" single parents, members of unmarried couples, or had very young children. They included disproportionately high numbers of widowed and divorced persons, and more of them were found in counties other than Honolulu.

Table 36 shows the statewide percentages for hidden homeless and at-risk of homelessness households as reported in HHPS since 1992.

Table 36. At-Risk and Hidden Homeless Households, State of Hawai'i, 1992-2016

	Hidden Homeless Households	Households at risk of homelessness
1992	4.7%	29.7%
1997	6.8%	18.1%
2003	4.2%	12.7%
2006	4.3%	19.6%
2011	6.3%	24.3%
2016	5.7%	20.9%

Source: HHPS 1992, 1997, 2003, 2006, 2011, and 2016.

6. Homeless Strategy

After reviewing homeless data from the Census and ACS, HUD PIT Counts, Hawai'i HMIS, and HHPS 2016, it was clear that we had no

shortage of data on homelessness in Hawai‘i. Our objective for 2016 was to put some broader context to these numbers, to link them together in a system that might assist planners in developing needed units estimates for housing first programs. The system flowchart in Figure 15 may provide a starting point for that effort.

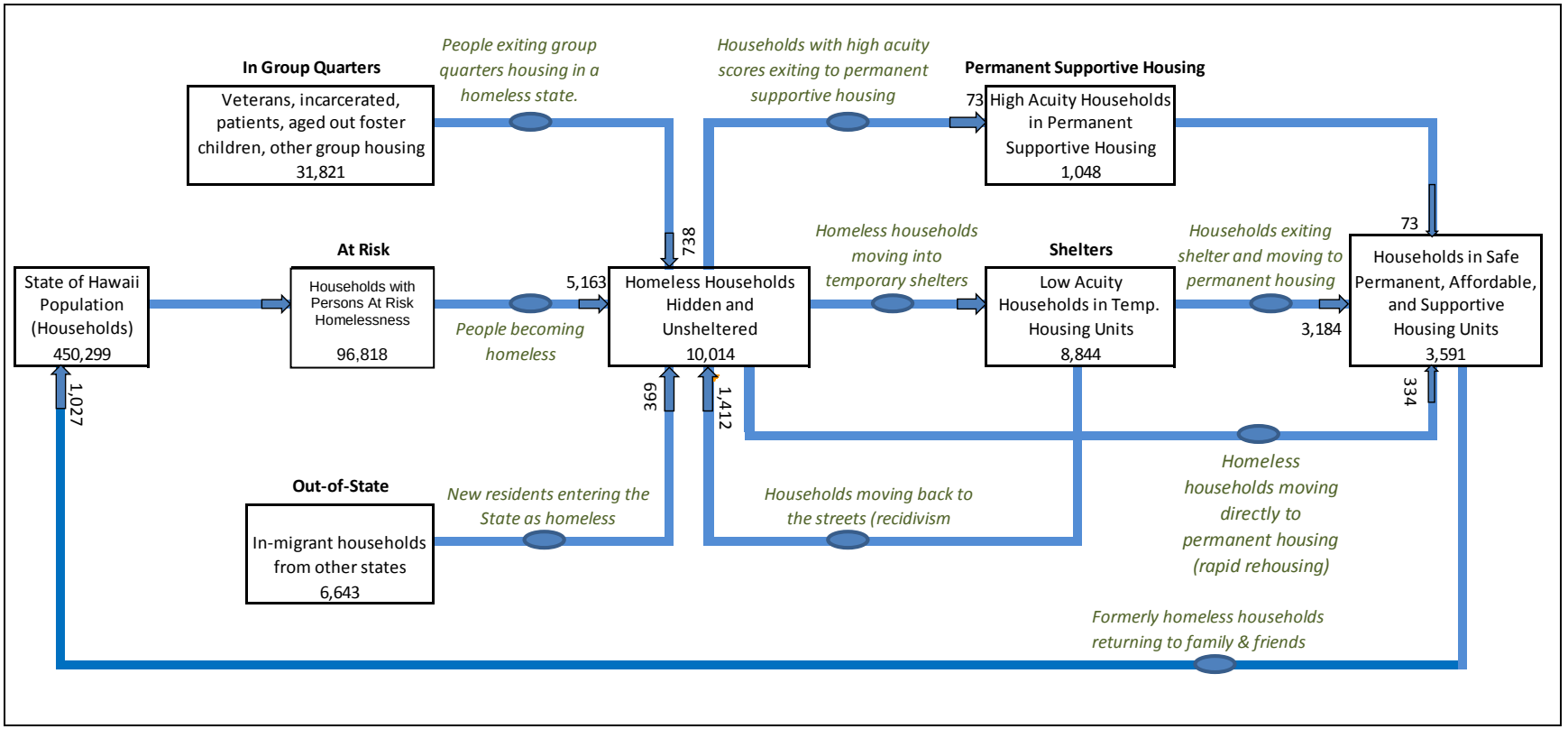
The object at the center of the chart is the group of homeless persons who received services from the State's homeless services providers in 2015. They were 14,954 individuals in 10,014 households who were served by HMIS that year. Homeless households flowed into the homeless population from one of four sources.

There were 450,299 households in Hawai‘i in 2015. About 96,818 (20.9%) were at risk of becoming homeless. About 5,163 of those households were admitted to the system last year. That would be equivalent to 5.3 percent of households at risk. Perhaps that puts some perspective on the high number of households at risk we have seen in the past.

Another stream begins with 43,732 persons, or an estimated 31,821 households, living in group quarters in 2015. Some group quarters institutions such as prisons, hospitals, nursing homes, and foster homes release clients who have no place to live at the time they are released. In 2015, there were 738 such persons recorded in the HMIS. That was about 2.3 percent of the total group and perhaps 4.9 percent of the system caseload for the year.

There were 24,911 migrants from outside the state last year. We estimate that might be about 6,643 households. Of those, 615 persons in 369 households entered the homeless system. That was about 2.4 percent of the in-migrants and 4 percent of the people receiving homeless services in 2015. Again, the perspective is valuable. We had heard from some stakeholders that there were zero immigrant homeless persons in the Hawai‘i system. Others felt that more than 50 percent of our homeless clients were from outside the state.

Figure 15. The Flow of persons through Hawai'i's Homeless Programs, State of Hawaii, 2015



Adapted from Homelessness in Calhoun County Decreased by 14% over six years at https://www.leveragenetworks.com/success-stories/homelessness-calhoun-county-decreased-14-over-six-years, gratitude to David Peter Stroh and Michael Goodman, Kellog Foundation.

Finally, about 8,142 individuals were either continuing clients from the previous year, or persons who had left the homeless programs and returned in 2015. The actual number of returnees was 3,362, which represents a churn factor of about 23 percent. The objectives of Housing First programs include reducing the treatment period for homeless people and reducing recidivism. These clients might be thought of as targets for program improvement in the near future.

During the 2015 program year, 7,601 homeless persons in an estimated 5,090 households exited the homeless system. That was about 50.8 percent of the total client load for 2015. The objective of homeless services programs under the Housing First strategy is to get people housed, reduce the time it takes to get them housed, and to reduce recidivism. The 2015 counts would be good benchmarks for those objectives. Homeless programs dispersed their caseload as follows.

1. There were 7,353 homeless individuals who remained in the homeless services programs at the end of the year. Over the course of the year, 7,601 persons were released from the system. Of those who exited the program, 4,680 persons in 3,257 formerly homeless households went to permanent housing situations. That group represented 61.6 percent of the 2015 caseload, and 32.5 percent of those exiting the system.

2. About 334 households moved directly into permanent housing without being assigned to other homeless services programs. These cases were the direct outcome of the rapid rehousing programs across the State.

3. Exactly 3,184 homeless households were moved into permanent housing from the emergency shelters and transitional housing programs.

4. A smaller number, 73 individuals were exited to permanent supportive housing.

5. About 1,027 homeless households left the system to take up residence with family and friends.

The number of households exited to permanent housing in 2015 is the sum of groups 2 through 5 above.

Table 37. Homeless Households Exited to Permanent Housing, 2015

	Households	
	Number	Percent
Total homeless households	10,014	100.0
Exited to permanent housing	3,257	32.5%
Rental with subsidy	904	27.8%
Rental without subsidy	1,253	38.5%
Family and friends	1,027	31.5%
Permanent supportive	73	2.2%

Source: HMIS 2015, p. 12.

a. A Planning Application

In 2015, Hawai'i Homeless Services Programs took in 5,717 new homeless persons in about 3,831 households. We exited 7,601 homeless persons in about 5,100 households – about 51 percent of the total caseload. Among those, 4,860 homeless persons in 3,257 households were exited to permanent housing. Those 3,257 households were about 64 percent of all the homeless households in the system during the year. It was about 33 percent of the exited households.

If we were to continue to exit 51 percent of the caseload each year and permanently house 33 percent those, we would grow the homeless population by 6 percent every year. The sum of new homeless households and recidivist households is greater than the number permanently housed at this time.

If, on the other hand, we chose to increase the percent of households exited from 51 to 65 percent, we would hold the homeless services caseload about even every year. Alternatively, if we changed the percent exited to permanent housing from 64 to 75 percent, we would reduce the system caseload by 3.3

percent per year. If we do both, we could reduce the homeless services program caseload by 10 or 11 per cent per year.

In fact, it is more accurate to say that the homeless services program caseload would be reduced by 11 percent in the first year. The success of the programs in reaching Housing First objectives would likely be compounded, reducing caseload by an increasing percentage each year. On the other hand, the success of the program may attract new cases each year, growing the caseload and offsetting program gains.

Solving this planning problem is possible with the existing data, but would require dynamic modeling that is outside the scope of this project. It is likely, however, that this kind of program success would generate a need for additional housing units each year. So how many housing units would be needed?

In 2015, all of the homeless households exited to permanent housing went into four types of housing units: (1) rental units without subsidy, (2) rental units with subsidies, (3) units shared with family and friends (where they will be doubled up), and (4) permanent supportive housing units. Assuming a similar homeless population in 2016 and homeless services programs that operate in a similar manner as in 2015, and assuming an adequate supply of the four types of units, the forecast is straightforward. For every 100 homeless families exited to permanent housing we would need (see Table 37):

- 28 units of public housing or publicly assisted housing without services, that is, subsidized housing;
- 38 rental units without services and without rental assistance, that is, standard rental housing units;
- 32 occupied housing units willing and able to accept additional friends and family members, that is, some capacity for doubling-up ; and
- 7 units of permanent supportive housing, housing units with substantial and ongoing services for persons with physical or mental disabilities.

b. A Note on Funding

Data reported by HUD show $11.4 million for homeless services in 2015 – down 2.2 percent since 2014. Other data suggest that Hawai‘i received notably less than the 50-state average support for homelessness from the Federal government.[51] Hawai‘i received $10.4 million to serve 7,620 homeless individuals in 2016, or $1,365 per homeless person. Connecticut received $8,464 per homeless individual. A subsequent report[52] estimated that Hawai‘i would receive an additional $11,095,440 if funding were equalized.

[51] National Homeless Information Project. (2016) Special update: state-by-state ranking of homeless assistance "per capita" funding, March 27, 2016 at http://www.nhipdata.org/#.

[52] National Homeless Information Project. (2016) An analysis of the allocation of federal homeless funding, March 2016.

C. TOURISM AND HOUSING

In 2016, we take up the relationship between the visitor industry and housing for the first time. We do so at the request of both the visitor industry, through the Hawai'i Tourism Authority (HTA), and the State and County Housing Offices who are sponsoring the HHPS again this year.

Hawai'i has a thriving visitor industry because it has many amenities – a pleasant climate, scenic beauty, great beaches and water sports, good visitor products and infrastructure, a well-trained and experienced labor force, a pleasant lifestyle, and a host culture that provides a foundation for hospitality and our Aloha Spirit.

The visitor industry has been Hawai'i's number one industry since replacing sugar and pineapple production in the nineties. It provides about 165,000 jobs per year, accounts for a substantial percent of the GSP and contributes $1.9 billion each year in Hawai'i State General Excise Tax and the Transient Accommodations Tax.

Most residents understand the value of tourism to our economy.[53] They also know tourism can generate low-wage jobs and is subject to the volatility of international travel markets. A strong visitor industry may also bring higher population growth, greater external housing demand, and higher housing prices. The whole situation can be exacerbated by large expenditures for destination advertising.

What is of interest to us here is the impact of the visitor industry on the residential housing market in Hawai'i. Do rising room rates affect residential rents? Do very high visitor room rates lead to a loss of residential housing stock?

1. Traditional Relationship

The traditional relationship between tourism and housing markets starts with tourism's benefits to local economies. Virtually all sources agree: (1) tourism is a good way to turn non-economic assets into exports, improve the economy, create jobs, and generate income[54]; and (2) if you choose the visitor industry as a way to run your economy, you can expect high housing prices[55] and other problems.[56] Fitz (2006) showed that tourism leads to an increase in second homes[57], which increases property taxes and Biagi, *et al*. found that higher housing prices lead to issues in affordability, displacement, and gentrification.[58] These research findings will not surprise anyone in Hawai'i's visitor industry.

In Hawai'i, the academic literature has not produced much on the direct impact of tourism on the housing market. The popular literature, on the other hand, has recently taken up the topic. The Individually Advertised Units Study (SMS, 2014) estimated that there were 22,000 vacation rental units in Hawai'i. The report was

[53] Hawai'i Tourism Authority, *Resident Sentiment Survey, 2015*, p.7.

[54] Gunderson, Ronald J. and Pin T. Ng. 2005. Analyzing the effects of amenities, quality of life and tourism on regional economic performance using regression quantiles, *Regional Analysis & Policy*, vol. 35, no. 1.

[55] Reeder, Richard J. and Dennis M. Brown. 2005. Recreation, tourism, and rural well-being. United States Department of Agriculture, Economic Research Services, Economic Research Report Number 7, August, 2005. See also Ko, Dong-wan and William P. Stewart. 2002. A structural equation model of residents' attitudes for tourism development, Tourism Management, Vol. 23, pp. 521-530, 2002. See also, Affordable homes and tourism are election issues in Midhurst, *Midhurst and Petworth Observer*, (UK), April 13, 2015.

[56] Carlino and Saiz (2008) used visitor arrivals as a measure of consumer preference for local amenities. They found: (1) amenities were linked to population and job growth; (2) "beautiful cites" attracted more skilled employees; (3) growth in visitor arrivals was related to accelerated housing price appreciation, especially in supply-inelastic markets; and (4) local investment in physical amenities resulted in increased demand for visits. They saw this as evidence of a self-perpetuating cycle of tourist development housing appreciation.

[57] Fitz, Richard G. (1982) Tourism, vacation home development and residential tax burden: A case study of the local finances of 240 Vermont towns, *American Journal of Economics and Society*, Vol. 41, No, 4, pp. 375-385, October 1982.

[58] Biagi, Bianca, Dionysia Lambiri, and Alessandra Faggian. 2012. The effect tourism on the housing market, in Uysal, M., *et. al.*, (eds.), *Handbook of Tourism and Quality-of-Life Research: Enhancing the Lives of Tourists and Residents in Host Communities*, International Handbooks of Quality-of-Life, Springer Science+Business Media B.V. 2012.

interpreted by Civil Beat to claim that the majority of individually advertised units were illegal.[59] The debate went on to include claims that "Some people complain that illegal rentals have caused housing prices to soar and have torn apart communities where residents know all their neighbors".[60] In addition to these public reaction stories, some data appeared, noting that, "at 80 percent occupancy, the average Airbnb rent in 2015 would bring in $5,900 per month." That is nearly 3.5 times the average rent for a residential rental unit in 2015.[61]

What concerns us here is one particular part of visitor industry operations in Hawai'i -- the number of rental properties being used for short-term rentals to transient parties. Short-term means rental contracts for 30 days or less. Transient parties include visitors from out of state and over-night-or-longer interisland visitors.

These types of rental units have been discussed using a variety of names. In this report, we will use the term Vacation Rental Units (VRU). VRUs include single-family detached and multi-family dwelling units. As used here, VRUs include single-family rentals, multifamily condominium rentals, and bed and breakfast properties. Some VRUs started as visitor accommodations units and others may be transformed residential housing units. In Hawai'i, as in other visitor destination areas, VRUs are subject to regulations, registrations, business taxes, and tourist taxes. In addition, like other visitor communities, there are claims that some VRUs operate illegally, in violation of zoning codes or tax responsibilities.

Regardless of the nomenclature, there is little doubt that the number of VRUs in Hawai'i has been increasing. The Visitor Plant Inventory (VPI) shows an increase from 2,438 in 2005 to 10,768 in 2015[62], or about 34 percent per year. VPI Supplemental Studies[63] used a different method to show that Individually Advertised Units (IAU) counts may be as high as 27,000 in 2015.

VPI supplemental studies show that short-term IAUs are located in nearly all communities in Hawai'i, suggesting that residential housing stock may have been affected. The same studies also show that the units are heavily concentrated in visitor destination areas. Because regulation and permitting of vacation rentals is under each county's jurisdiction, counties have differing permitting requirements and may prohibit short-term rental units outside specific districts.

2. Foundational Data

Hawai'i's tourism economy has been growing impressively for the last seven years. Visitor arrivals grew by 32.9 percent since 2009 (Table 38). Throughout the period of rapid growth, the pattern of visitor accommodations use remained relatively stable. The percent of visitors who stayed at commercial visitor accommodations units grew by only two percent in seven years. The rest, (those who stayed with friends and relatives or aboard cruise ships) dropped sharply in 2008-2009 and the segment was much slower to recover after 2010.

Table 38 presents data for the recovery period following the Great Recession. Between 2005 and 2009, the number of visitor arrivals dropped from 7.4 million to 6.4 million (-13.4%). Between

[59] Cooke, Sophie, Report indicated O'ahu's illegal vacation rentals outnumber permitted ones, *Honolulu Civil Beat*, December 24, 2014.

[60] Riker, Marina. 2015, State, City looking to crack down on illegal vacation rentals, *Honolulu Civil Beat*, March 10, 2015.

[61] Honolulu rental market: Affordable rental housing study update, 2014, prepared by Ricky Cassiday for Department of Community Services, City and County of Honolulu, December 30, 2014, p. 115.

[62] The Hawai'i Visitor Plant Inventory is an annual count of visitor accommodations units conducted by HTA. The study develops a list of visitor properties and then surveys them to measure the number of rooms available to visitors. Obtaining an accurate list of VRUs has been increasingly difficult and VPI has acknowledged that VRU counts may be underestimated.

[63] *Individually Advertised Units in Hawai'i.* (SMS, 2014) estimated the number of VRUs from rental units advertised on vacation rental booking sites. In 2015, the supplemental study was published as part of VPI 2015. Following HTA's lead, we will refer to vacation rental units measured in VPI as VRU and individually advertised vacation units as IAU.

2009 and 2015, visitor arrivals grew from 6.4 million to 8.5 million (32.9%). The recovery was completed by the middle of 2012 and, thereafter, growth continued at a rate of 4.5 to 5.0 percent per year.

Table 38. Hawai'i Visitor Industry Statistics, 2008-2015

	2008	2009	2010	2011	2012	2013	2014	2015	% Chg.
Visitor Arrivals (x1,000)	6,713	6,420	6,917	7,174	7,867	8,003	8,184	8,534	32.9%
Number of Parties (x1,000)	2,964	2,899	3,102	3,282	3,497	3,510	3,662	3,915	35.0%
Percent Use Commercial Units[a]	87.7	87.6	88.0	88.8	89.4	89.7	89.6	89.4	2.1%
Percent Use Traditional Units[b]	82.1	82.2	82.4	82.6	83.0	82.5	81.9	80.9	-1.5%
Percent Use VRU	5.5	5.4	5.6	6.2	6.4	7.1	7.8	10.7	98.1%
Hotel Occupancy Rate	70.5	64.9	70.7	73.3	76.9	76.6	77.1	79.0	21.7%
Average Daily Room Rate	$201	$177	$174	$190	$205	$230	$243	$240	35.6%
Average Residential Rent Rates		1,654	1,607	1,645	1,734	1,717	1,761	1,888	14.1%

a. The percent of all visitor parties that used any type of commercial visitor accommodations units. Excludes those who stayed with family and friends and those who remained aboard a cruise ship.
b. The percent of all commercial accommodations user parties that use traditional visitor accommodations units – hotels, apartment hotels, condominium hotels, hostels, or timeshare units.
Sources: DBEDT, HTA Annual Reports, Rent Range

The number of visitor parties using traditional commercial visitor accommodations units[64] grew on a par with visitor arrivals -- from 5.3 million in 2009 to 6.9 million in 2015 (31% vs. 33% for arrivals). The percent of parties using traditional visitor accommodations units was steady throughout the recovery period with a growth rate of about 2 percent over five years.

There was a significant increase in demand for vacation rental units (including B&Bs). The percent of parties that used these units nearly doubled between 2009 and 2015 (5.4% to 10.7%). The VRU growth rate was almost 8 percent during the recession (2005-2009). Furthermore, the growth rate for use of VRUs by Hawai'i's visitors outpaced the use of traditional visitor accommodations during this period.

Hotel occupancy rates rose from 65 percent to 79 percent during the recovery for a 21.7 percent growth rate over five years. Most of the growth occurred before 2012 and occupancy rates have been relatively steady for the last three years. Moreover, even if the traditional visitor accommodation unit numbers suggest some loss of market share to VRUs, the share of revenue may not have been affected. Average daily hotel room rates rose from $177 to $240 during the same period, a growth of 36 percent.

Finally, Table 38 presents data on the median monthly rent for residential housing units in Hawai'i. The median rent rose from $1,654 in 2009 to $1,888 in 2015 -- a 14 percent growth rate over five years. Therefore, as the post-recession recovery proceeded, growing visitor arrival numbers were met by rising visitor rents (ADR). Residential rents grew by about a third of the rate in the visitor industry. A property owner considering the prospects of renting to visitors rather than residents might have been convinced by the numbers. There was a substantial difference in what could be charged for a room night – perhaps 3 to 4 times the local residential rate. In addition, there was a potential for even higher rents in the future as visitor rental rates grew much faster than residential rates.

3. Recent Research

This study brings new data to the subject. A set of questions sponsored by HTA were included in the demand survey and there was a separate

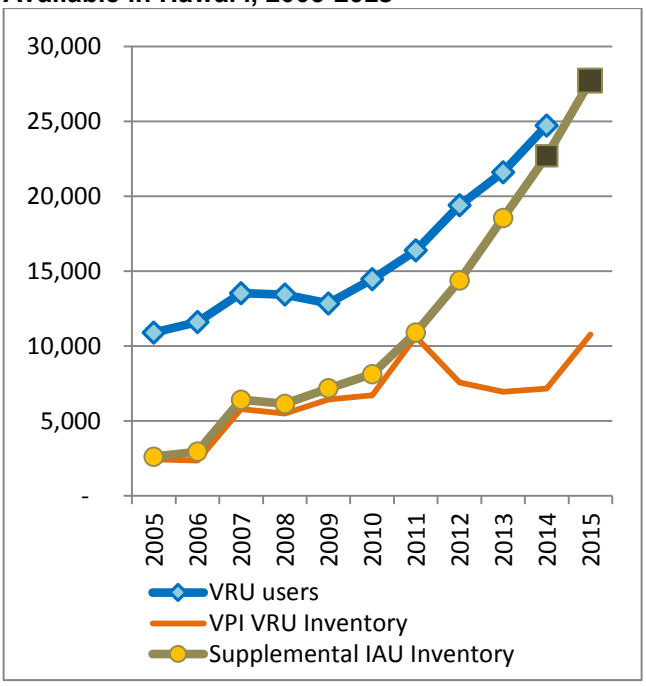
[64] Hotels, condominium hotels, and timeshare units.

survey of out-of-state property owners. The demand survey queried Hawai'i property owners on the use of their real estate as rental property and asked whether they rented to visitors. The out-of-state property owners' survey asked similar questions of a sample of owners whose tax billing address was outside of Hawai'i. It also borrowed data from the most recent visitor research by HTA.

a. Estimating VRU from Visitor Data

The HTA Visitor Plant Inventory (VPI) provides historical data on accommodations units available to house Hawai'i's visitors. Table 38 summarized some of the trends in VPI visitor accommodations between 2005 and 2015. Figure 13 shows the two recent estimates of the number of VRUs and IAUs compared with the use of VRUs reported in HTA's Basic Data Series, the data that form the foundation of visitor data in Hawai'i.

Figure 16. Estimated VRU and IAU Inventories Available in Hawai'i, 2005-2015



Source. Visitor Plant Inventory 2015.

The solid line represents the VPI counts for VRUs between 2005 and 2015. The line marked with circles is an SMS estimate of the VRU data from 2005 through 2013. The two points at the end of that line (dark squares) are the number of IAUs in Hawai'i according to the supplemental studies conducted in 2014 and 2015. The line marked with diamond shapes is the number of visitors who reported using a VRU (including B&Bs) between 2005 and 2014. The line represents the duplicated[65] count of visitors by place of stay. The figures include stays in more than one type of unit while in the islands. About 5.8 percent of visitors in 2013, for example, stayed at more than one type of unit.

The supplemental study estimate is a better match than the VPI counts for visitor reports of VRU usage. The circle-marked line is the more realistic estimate for IAUs. The data suggest that the growth rate for VRUs may have been relatively high in recent years, and that the high rate of growth began sometime after 2010. It was a recovery phenomenon.

The estimated number of IAUs in Hawai'i in 2015 was 27,177 as reported in VPI. As HTA noted, the figure may be overestimated[66] and should be reduced to 17,000. Therefore, the best estimate of the number of VRUs in Hawai'i in 2015 was between 17,000 and 27,000 units. The lower figure may be closer to the actual number of residential IAUs in Hawai'i because online booking sites are including more commercial visitor rental units than they did in the past.

b. Estimating VRUs from Survey Data

Two important data sources developed in HHPS 2016 were used to estimate the number of VRUs in Hawaii. The first was the Housing Demand Survey. In that survey of over 5,000 Hawai'i resident households, we asked homeowners if they rented rooms to visitors, if they owned residential property other than their current

[65] A visitor party that stayed in a hotel and a B&B during their stay would be counted twice, once in the hotel count and once in the B&B count.

[66] The Supplemental Study suggests the estimate may be overstated, noting: "Because of the lack of unique identifying information associated with each vacation rental unit listed on the booking sites, it is currently not possible to identify and eliminate much of the double and triple counting that occurs when a property is listed on multiple booking sites."

residence, and if they rented to visitors on short–term contracts.

The second source was the Out-of-State Property Owners Survey in which we asked about 1,200 out-of-state property owners a similar set of questions to help in estimating the number of VRUs they might add to the inventory. Combining those data, SMS developed an analysis model in which the 1,200 Out-of-State surveys represented about 72,639 out-of-state property owners and the 5,000 Housing Demand Survey respondents represented about 450,000 resident households. The results show that there were 45,075 units available for short-term rental to visitors in 2016. That figure includes at least some commercial visitor rental units. The Supplemental Studies estimated commercial units to be about 37 percent of the total units advertised. If we apply that figure to the 45,075 units measured in the HHPS surveys, the estimated number of non-commercial VRUs in Hawai'i in 2016 would be 28,397.

c. Adjusting the Estimates

We then considered the two important estimates available: 17,000 from the supplemental studies 2015 and 28,397 from the HHPS surveys conducted in 2016. We adjusted the 2015 supplemental study estimate to 20,714 in 2016 based on recent growth rates in these units.[67] We rounded the estimates to 21,000 and 28,500.

Then we adjusted for differing definitions and procedures. The supplemental studies measured IAU as the number of units offered for rent by on-line booking sites at a specific point in time. The Out-of-State Survey measured VRUs as the number of properties rented to visitors on short-term contracts. Supplemental study estimates would be short of the Out-of-State Survey estimate by: (a) the number of units not advertised at the time Internet downloads were made; (b) the number of units not advertised on online booking sites, and (c) the number of unduplicated units advertised on booking sites not included in the supplemental studies.[68]

Units not advertised: The Out-of-State Property Owners Survey shows that about 19 percent of out-of-state rental property owners did not use an on-line booking site to advertise their properties. They would not be available to the supplemental studies. Adjusted for unadvertised units, the low estimate of 21,000 units would increase to about 24,990 units.

Units advertised on sites excluded from Supplemental Studies: The 2015 supplemental study used four online booking sites: VRBO, FlipKey, Airbnb, and Clearstay. Those four sites accounted for 84.3 percent of the sites named by our survey respondents.[69] Adjusted for the non-coverage factor, the new estimate for 2016 would be 28,913 units.

Units not advertised on a specific date. Not all properties are advertised on the online booking sites every day. The number of properties advertised on any given day is unknown and the supplemental surveys will likely underrepresent the total population of units. The HHPS survey population included all properties regardless of how many times they were advertised. However, it did not measure the owners' advertising habits and provided no way to adjust the VRU count.

The locus of decision-making issue: One of the unanticipated findings of the Out-of-State Survey was that many property owners did not know how their units were rented. About 55 percent of them used a rental agent and more than half of those had little information about how the units were advertised, how bookings were made, what types of visitors were renting, and what rental contracts were being made. We assumed these "unaware" respondents had renter profiles similar to those of property owners who reported rent details. That may have been optimistic. Property managers have told us that rental agents are more likely to rent, more likely

[67] See for example, Stulberg, Ariel. *Airbnb probably isn't driving rents much, at least not yet,* FiveThirtyEight, August 24, 2016.

[68] VPI 2015, p. 63.

[69] Out-of-State Property Owners Survey, 2016.

to list on booking websites, and more likely rent on short-term contracts.

In summary, the estimated number of VRU properties in Hawai'i available to visitors differs considerably depending on the source. The adjusted number from the VPI supplemental studies is about 29,000 and the estimate from the HHPS surveys is about 28,500.

3. Impact on Housing

Estimating the impact of VRU growth requires that we bring two data sources together – data describing Hawai'i's housing stock and data describing the visitor accommodations inventory. Reconciling the two was a challenge.

a. Housing Unit Counts

In 2015, there were 532,413 housing units (up 2.4 percent since 2010), and 477,293 available to the local resident market (up 0.7% since 2010). The housing stock has not been growing as fast as the total housing units recently.

There were 51,120 vacant units not available to residents in 2015, and that was up 19.9 percent since 2010. Most of those (35,197) were units held for seasonal, recreational, or occasional use (up 9.0 percent since 2010). Growth in the components that include visitor units occurred primarily after 2010, again suggesting it was a post-recession phenomenon.

b. Units Used for Visitor Rental

Speculation is that the increase in visitor arrivals, the slow growth of the visitor plant, the pressure of visitor demand for units in the community, and the advance of Internet booking sites decreased the size of the residential housing stock. The HHPS surveys found that there were between 28,500 and 29,000 housing units being rented to visitors on short-term contracts in 2016.

We did only one cross sectional study, so we don't know if property owners' behaviors are changing from survey data. Data from VPI and the Census suggest that growth in visitor use has been high and shows no sign of slowing.

c. The Shared Economy

The HHPS Housing Demand Survey also asked questions related to the "shared economy"[70] as part of VRU use in Hawai'i. Among all Hawai'i homeowners, 12,337 (4.7%) rented rooms in their homes to non-family members. Of those, about 2,029 (16.5%) rented rooms to visitors. That would mean that the shared economy affects about 0.4 percent of Hawai'i's housing units. That is consistent with sharing data available from Airbnb. They report that more than 75 percent of Airbnb's Honolulu clients rent the entire property.

d. Impact on Residential Rents

Some studies have suggested that there is a relationship between greater use of vacation rentals and higher housing prices. The National Association of Realtors (NAR) blogs that VRUs increase rents, decrease affordability, and draw developers' attention to the top of the market. Local researchers report that VRUs exacerbate the affordable housing problem by reducing our housing stock and driving up rents, which in turn inflates demand for investment properties at the high end of the market.[71]

Figure 14 brings together some foundation data for visitor and residential rents in Hawai'i over the last nine years. For the visitor data, we took the average daily room rate (ADR) for all commercial properties.[72] Figures shown here are six times the ADR to accommodate the scale of

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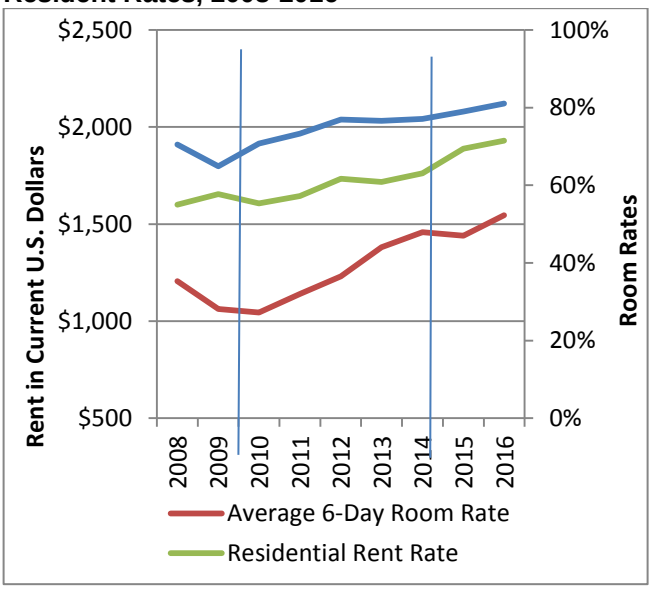
[70] Forbes. (2016). Also called collaborative consumption or the peer economy, owners rent out something they are not using, such as a car, house, or bicycle to a stranger using these peer-to-peer services. http://www.forbes.com/pictures/eeji45emgkh/airbnb-snapgoods-and-12-more-pioneers-of-the-share-economy/#3608f0f97226

[71] Usborne, Isis and Benjamin Sadoski. 2016. The hidden cost of hidden hotels: the impact of vacation rentals in Hawai'i, in UNITE HERE Local 5, May, 2016, p. 8.

[72] DBEDT Data Book 2015 includes rates for hotels, condo hotels, and timeshare units. We used Hospitality Advisors reports for 1st quarter 2016 estimate.

the graph. The graph compares the six-day rate with the monthly rate for residential housing. The objective was to compare rates of change over time. For the residential figures, we chose the contract rent rates for all rental units in the State.[73] We added the hotel occupancy rate as a rough demand indicator.

Figure 17. Hawai'i Visitor Room Rates and Resident Rates, 2008-2016



Source: Hospitality Advisors; Rent Range. 2016 figures are for first quarter only.

During the Great Recession, visitor rates fell and resident rents were stable. After 2009, rents in the residential market rose steadily at a rate of about 3 percent per year. Visitor rates also rose, but at a faster rate than resident rates. Some observers have interpreted the 2015 drop in visitor rates as a "leveling off" of ADR. First quarter 2016 data suggest it may have been an anomaly.

The fact that any two data series rise at similar rates does not mean they are causally related, of course. Proving that would require a more complex econometric analysis - one that is beyond the scope of this project.

We did, however, compare residential contract rent rates in different neighborhoods. If tourism affects resident rents then we might expect differences across geography. Specifically, neighborhoods nearer resort developments might have higher rents and faster growth than in neighborhoods that are more distant from resort areas. Neighborhoods farther from resorts might not be affected by hotel room rates.

We identified zip code areas with major resorts and labeled them "visitor destination areas" (VDA). Other zip codes were categorized as "other, residential".

The City and County of Honolulu has the highest average monthly resident rent ($2,261), the highest rental growth rate (26.1%), and the highest six-year rate of growth in ADR (47%). Other than those observations, strong patterns are not revealed in the marginal data and the rankings of the other counties are different for each of the variables in Table 39.

However, the relationship between rents in neighborhoods near resorts and those further away is the same in all four counties. In all counties, residential rent rates in VDAs are higher than rents in other neighborhoods. In every county, rental growth rates were higher in VDAs than in other neighborhoods. Across all counties, the VDA rental growth rate was always much closer to the ADR growth rate was the case for non-VDA neighborhoods. The results are consistent with the proposition that increasing residential rents are related to increasing visitor rent rates in Hawai'i.

[73] Rent Range, average monthly rent for all rental units.

Table 39. Residential Contract Rent for Visitor and Non-visitor Areas by County, 2010-2015

Geographic Area	Average Monthly Residential Rent			% change in ADR, 2010 - 2015
	2010	2015	% Change	
Hawai'i County	$ 1,281	$ 1,502	17.2%	
Visitor destination areas	$ 1,438	$ 1,760	22.4%	24.4%
Other, residential areas	$ 1,217	$ 1,427	17.2%	
Honolulu County	$ 1,793	$ 2,261	26.1%	
Visitor destination areas	$ 1,987	$ 2,563	29.0%	47.0%
Other, residential areas	$ 1,757	$ 2,205	25.5%	
Kaua'i County	$ 1,407	$ 1,700	20.9%	
Visitor destination areas	$ 1,397	$ 1,741	24.6%	41.7%
Other, residential areas	$ 1,414	$ 1,669	18.1%	
Maui County	$ 1,709	$ 1,753	2.6%	
Visitor destination areas	$ 1,824	$ 1,935	6.1%	39.9%
Other, residential areas	$ 1,644	$ 1,651	0.4%	

ADR = average daily room rent. Sources: Rent Range and Hospitality Advisors.

D. SPECIAL NEEDS HOUSING IN HAWAI'I

Beginning in 2011, the HHPS identified housing-related issues among persons belonging to eight special needs populations in Hawai'i. Many members of special needs populations live in existing households and are cared for by family members. They may receive some public services in the process. Others are housed in residential service programs or other group quarters. These persons usually require substantial levels of service delivered onsite. As such, persons with special needs may create demand for housing that is separate from, and in addition to, the rest of the residential housing market.

Populations with special needs include:

- The elderly (age 62 and older) and frail elderly (elderly with physical or mental limitations that may interfere with their ability to independently perform activities of daily living).
- Exiting offenders
- Persons with alcohol and/or other drug addiction
- Disabled persons
- Persons living with HIV or AIDS
- Persons with severe mental illness
- Victims of domestic violence
- Emancipated foster youth

1. Demand for Special Needs Housing

Persons in one or more special needs populations often experience challenges in obtaining or retaining housing. Low incomes, high need for supportive services near or in the residential context, and the temporary nature of much of special needs housing may impede special needs persons from securing adequate affordable housing.

a. Economic Barriers to Accessing Housing

Persons in special needs groups are often unable to afford adequate housing due to low rates of employment or employability. For example, more than 90 percent of persons in Hawai'i who were served by the Public Mental Health system in 2013 were either unemployed or not in the labor force.[74] Persons with substance addiction were more likely to be unemployed than employed full- or part-time.[75] Victims of domestic violence missed twice as many workdays than average employees. Those who had been abused were absent from work for an average of 7 days at a time.[76] For part-time employees, this resulted in a considerable loss of income.

Persons exiting incarceration were at a considerable employment disadvantage. Many had less than high school diplomas, lacked adequate job training or work experience, and often suffered from physical disability or mental illness. There was also a bias against hiring former prisoners. As a result, it was difficult for exiting offenders to obtain steady work at pay rates high enough to afford market-rate rents.[77]

Though most of them do not require support in daily living, exiting offenders without the economic means to secure housing will move into transitional housing. Transitional housing for exiting offenders often provides substance abuse treatment, reintegration counseling, and support services that encourage adherence to terms of release and promote successful reintegration into the community.

Young adults who exit the foster care system cannot usually depend further on their foster families and most need to secure their own housing when they age out of the foster system. There are state and federally funded programs to facilitate transition from foster care to independent adulthood. However, young people exiting foster care are less likely than

[74] Substance Abuse and Mental Health Services Administration (2014). *Behavioral Health Barometer, Hawai'i*.

[75] Substance Abuse and Mental Health Services Administration, *Results from the 2013 National Survey on Drug Use and Health: Summary of National Findings*.

[76] Rothman, Hathaway, Stidsen, & de Vries (2007). How employment helps female victims of intimate partner violence. *Journal of Occupational Health Psych*, 12, p. 136.

[77] Urban Institute Justice Policy Center (2008). Employment After Prison: A Longitudinal Study of Releases in Three States. October, 2008. http://www.urban.org/sites/default/files/alfresco/publication-pdfs/411778-Employment-after-Prison-A-Longitudinal-Study-of-Releasees-in-Three-States.PDF

average to have a high school diploma and many have difficulty finding employment that would qualify them for market-rate rentals.[78]

b. Need for Special Services

Although public housing, Section 8, and other similar housing support programs help to mitigate the economic-barriers to accessing housing, many special needs persons may need access to support or treatment services delivered at or near their residence.

Frail elderly, persons with advanced terminal illness, severe mental illness, or severe physical disability may be unable to live alone due to an inability to perform activities associated with daily living. The inability for some persons to live independently results in the need for shelter in group quarters or facilities that provide daily living support and that can provide or facilitate access to necessary medical treatment.

Similarly, persons with substance addiction will often enter residential facilities where treatment and counseling are integrated into the residential context. During long-term residential treatment, an addicted person will go through the course of treatment for addiction as well as receive counseling, job training, and other support services.[79] Upon the completion of residential treatment, persons recovering from substance addiction may move into sober houses, many of which are expected to be transitional in nature.

Victims of domestic violence require shelter that provides protection from abusers and that facilitates access to childcare services, financial and employment support services, and counseling.

c. Special Needs Housing is Often Temporary

If a person with special needs is able to secure affordable housing with access to needed support services, the challenge shifts from *becoming* housed to *staying* housed.

Housing in residential service programs - from domestic violence shelters to prisons - is, by its nature, temporary. After a designated period, persons in most special needs housing are expected to move into permanent housing. If they have not secured a permanent residence at another location, they must continue to pursue temporary housing options or risk homelessness.

Further, many agencies that provide supportive temporary housing to special needs groups are funded by private donors or government programs. They can provide housing support only as long as their funding exists. As an example, in 2016, the Department of Housing and Urban Development (HUD) cut funding to programs that provide temporary or emergency shelter services across the country. The cuts were the result of a reconfiguration of funding allocation that places greater emphasis on the provision of permanent supportive housing for homeless persons. In Hawai‘i, eight programs that provide transitional or temporary housing to special needs groups had funds cut.[80] Some of these programs may no longer be able to operate. Others must find other funding mechanisms in order to continue to provide special needs housing assistance.

d. Special Needs Persons in Need of Housing

Estimating the number of persons in special needs populations who need housing is challenging for a variety of reasons.

First, even if we have a population estimate for a special needs category, there is rarely any

[78] Hawai‘i Kids Count (2012). Issue Brief. Improving Outcomes for Youth Transitioning Out of Foster Care. http://www.yeshawaii.org/wp-content/uploads/2015/09/TUES-HawaiiKidsCountBrief.jpg

[79] National Institutes of Health, National Institute on Drug Abuse (2012). Principles of Drug Addiction Treatment: A Research-Based Guide (3rd ed.).

[80] Nakaso, D. (May 20, 2016). HUD cuts funds to programs for homeless with HIV/AIDS, mental illness. *Honolulu Star Advertiser.*

count of persons in that category who need housing. U.S. Census estimates of the frail elderly and persons with disabilities say nothing of housing need (all such persons are sheltered in existing households) and breakdowns of the group quarters population are unpublished.

Second, many agencies that provide services for persons with special needs are not required by contract or charter to provide housing. The result is that service agencies may be unable to provide accurate information on housing needs within their target populations. In fact, unless housing is specifically listed among information and referral services, these agencies cannot provide evidence on the number of their clients who actually receive housing services.

Third, co-occurring disorders are common among persons with special needs. In one study, 40 percent of persons with mental health problems also report substance use problems.[81] About 65 percent of incarcerated persons meet the diagnostic criteria of substance abuse.[82] Victims of domestic violence are more likely than average individuals to have HIV, severe mental health difficulties, or substance dependence, stemming from their abuse.[83] Summing housing need across all special needs populations is likely to inflate an estimate of housing need.

Finally, many special needs persons are homeless and thus duplicated in point-in-time or other counts of the homeless discussed elsewhere in this report.

Although there are challenges in estimating the number of special needs persons who need housing, attempting to estimate the size of this population is critical to ensuring the availability of adequate funding for special needs housing support. As such, Table 40 presents some estimates of the number of persons in each special needs population. The counts are duplicated across categories and not every person with a special need requires housing.

Table 40. Special Needs Group Sizes

Special Needs Group (Statewide)	Number Persons	Source
Elderly-Related		
Elderly (60+) (2014)	316,555	2014 ACS
Elderly (60+) with any Disability (non-institutionalized) (2014)	94,776	2014 ACS
Elderly (60+) living alone (2014)	53,689	2014 ACS
Age 65+ receiving Aid to Aged, Blind & Disabled (average per month)	915	Hawai'i DHS Data Book 2015
Substance-Abuse Related		
Substance abuse offenders in treatment programs (2014)	4,336	Judiciary Report to Legislature 2016 Session
Persons with Substance Abuse (2014)	37,221	Substance Abuse & Mental Health Services Admin. Behavioral Health Barometer, Hawai'i 2014
Domestic-Violence Related		
Domestic Violence Victims/Survivors Served (2012)	7,338	Hawai'i DHS Data Book 2015
Domestic Violence Victims/Survivors provided Shelter (2012)	769	Hawai'i DHS Data Book 2015
Family members of Victims/Survivors provided Shelter (2012)	648	Hawai'i DHS Data Book 2015
Number of Bed Nights for Victims/Survivors and family members (2012)	42,576	Hawai'i DHS Data Book 2015
Persons living with AIDS/HIV (2014)	131	CDCP, HIV Surveillance Report 2014
Persons with Severe Mental Illness (2014)	58,695	Substance Abuse & Mental Health Services Admin. Behavioral Health Barometer, Hawai'i 2014
Foster Care Children Exiting because of Emancipation (2015)	71	Hawai'i DHS Data Book 2015

[81] Substance Abuse and Mental Health Services Administration (2016). Mental and Substance Abuse Disorders.

[82] The National Center on Addiction and Substance Abuse (2010). *Behind Bars II: Substance Abuse and America's Prison Population*.

[83] World Health Organization (2013). *Global & Regional Estimates of Violence Against Women: Prevalence of Health Effects of Intimate Partner Violence and Non-Partner Sexual Violence*.

The table above illustrates the challenge of determining the size of special needs groups and the size of the number of people currently being served. To better identify future needs for residential services with wrap-around services, a new approach needs to be developed. Ideally, this approach will correspond to the types of care facilities that are available. One example may be that instead of counting aged individuals as a group, we can identify the characteristics of adults age 65+ who use the services of a residential care facility versus a skilled nursing facility, etc. Once these characteristics are grouped by type of facility, we can better estimate total demand.

e. Inventory of Special Needs Housing

In this section, we deal with the challenges in trying to assess the system capacity for housing persons with special needs. We include the data on type of facilities and vacancies on record.

Eight facilities statewide offer temporary shelter for survivors of domestic violence. The capacity of these shelters vary because they have a "no turn away" policy meaning they will accommodate as many survivors and family members as necessary. Stays at these facilities can last as long as 120 days. During their stays, staff members work with survivors to find an appropriate longer-term residence.[84]

A "Special Treatment Facility" is a facility that provides a therapeutic residential program for care, diagnoses, treatment or rehabilitation services for socially or emotionally distressed persons, mentally ill persons, persons suffering from substance abuse, and developmentally disabled persons. There are 27 facilities in the State: four on Hawai'i Island, one on the island of Maui and 22 on O'ahu. It is unclear the number of beds or vacancy level for each facility.[85]

"Therapeutic Living Programs" (TLPs) are a long term (up to 6 months) residential program for adults with severe and persistent mental illness, who do not need the care of a specialized treatment facility. The primary goal of the program is to assist clients in meeting their basic needs until they are able to transition in to a more independent living option of their choice. Support is flexible, focused, and based on recovery. There are 10 TLPs statewide: three on Hawai'i Island, one on the island of Maui, and six on O'ahu. It is unclear how many beds or vacancies for each of these facilities.[86]

"Developmental Disabilities Domiciliary Homes" are described under *Chapter 333F of Hawai'i Revised Statutes-Services for Persons with Developmental Disabilities or Mental Retardation.* These homes provide twenty-four hour supervision or care, excluding licensed nursing care, for a fee, to not more than five adults with mental retardation or developmental disabilities. There are 42 of these facilities statewide: one on Hawai'i Island, three on Maui and 38 on O'ahu. The number of beds and the occupancy rates for these facilities are unknown.[87]

"Community Care Foster Families" serve the aged and disabled persons by providing housing, supervision, direct care, and management of resident's non-medical and medical service needs. As shown in Table 41 below, there are 492 homes with 1,203 beds statewide. These homes serve a mix of Medicaid and private pay patients. Maui and Kaua'i have higher vacancy rates of 55 percent and 52 percent, respectively. Hawai'i Island and O'ahu have significantly lower vacancy rates of 36 percent and 38 percent, respectively.[88]

[84] Hawai'i State Coalition Against Domestic Violence
[85] State of Hawai'i Department of Health, Office of Healthcare Assurance, State Licensing Section.
[86] State of Hawai'i Department of Health, Office of Healthcare Assurance, State Licensing Section
[87] State of Hawai'i Department of Health, Office of Healthcare Assurance, State Licensing Section
[88] State of Hawai'i Department of Health, Office of Healthcare Assurance, State Licensing Section

Table 41. Community Care Foster Families

Community Care Foster Families					
	O'ahu	Maui	Hawai'i	Kaua'i	State
# of Homes	408	28	45	11	492
Capacity (# of beds)	981	65	128	29	1203
Medicaid Open Beds	171	16	27	7	221
Private Pay Open Beds	201	20	19	8	248
Open Beds as a % of Capacity	38%	55%	36%	52%	39%

Table 42 shows the number, capacity, and vacancies for Adult Residential Care Homes (ARCH).

Table 42. Adult Residential Care Homes, Hawaii, as of May 5, 2016

	No. Homes	Capacity	Vacant	Vacancy Rate
ARCH I	218	964	526	53%
ARCH II	4	109	85	78%
Total	222	1,093	611	56%
EXP	231	1,133	620	55%
ARCH II- Exp	31	440	263	60%
Total Exp	262	1,573	883	56%
Grand Total	484	2,666	1,461	56%

Source: State of Hawai'i, Department of Health, Office of Health Care Assurance, State Licensing Section, Updated May 13, 2016.

ARCH I and ARCH II are intended to serve adults with minimal service needs, providing assistance with activities of daily living. EXP and ARCH II-EXP provide 24-hour assistance with activities of daily living. These two programs also provide skilled nursing services, if needed. Statewide there are 484 licensed ARCH homes offering 2,666 beds. As of the last report noted above, 56 percent of these beds were vacant. Vacancy rates are relatively low on Hawai'i Island and higher on the other three islands.[89] Other details for the State and counties are provided in Tables D-1 through D-5b in the appendix.

Table 43. Assisted Living Facilities, Hawaii, as of May 13, 2016

	Number Facilities	Capacity
State	15	2,400
Hawaii	1	220
Honolulu	12	1,936
Kauai	1	100
Maui	1	144

Source: State of Hawai'i, Department of Health, Office of Health Care Assurance, State Licensing Section, Updated May 13. 2016.

Assisted Living Facilities (Table 43) serve the purpose of providing a combination of housing, meal services, health care services, and personalized support services designed to respond to individual needs. Statewide there are 15 facilities with a 2400 bed capacity.[90] Eighty percent of the facilities and 81 percent of the system capacity are located on O'ahu.

Table 44. Skilled Nursing and Intermediate Care Facilities, Hawaii, 2016

	Number Facilities	Capacity
State	50	4,401
Hawai'i	9	886
Honolulu	33	2,828
Kaua'i	5	333
Maui	2	344
Lāna'i	1	10

Source: State of Hawai'i, Department of Health, Office of Health Care Assurance, as of June 23, 2016

Hawaii's Skilled Nursing and Intermediate Care Facilities (ICF) provide types of care similar to those provided by ARCH homes, but are housed in larger facilities (Table 44). ICF provides 24-hour assistance with activities of daily living and care provided by licensed nursing and paramedical personnel on a regular long-term basis. Skilled nursing facilities provide skilled nursing and related services to residents who require 24-hour medical or nursing care or rehabilitation

[89] State of Hawai'i Department of Health, Office of Health Care Insurance, State Licensing Section, Updated May 13, 2016

[90] State of Hawai'i Department of Health, Office of Health Care Assurance, Medicare Facilities, as of June 23, 2016.

services. Statewide 50 facilities offer this level of care with 4,401 beds.[91] Sixty-six percent of the facilities and 64 percent of the capacity are located on O'ahu.

Table 45 shows the number of Intermediate Care Facilities for Individuals with Intellectual Disabilities. Statewide there are 18 facilities with an 88-bed capacity.[92]

Table 45. Other Intermediate Care Facilities, Hawaii, 2016

	Number Facilities	Capacity
State	18	88
Honolulu	14	67
Maui	4	21

Source: State of Hawai'i, Department of Health, Office of Health Care Assurance, as of June 23, 2016

Combining Community Care Foster Families, ARCH, Assisted Living Facilities, SNF and ICF there are 8,638 beds providing different levels of care. Because only Community Care Foster Families and ARCH provide vacancy numbers it is difficult to determine if there are too many or too few of this type of residential care in Hawai'i.

f. Needed Units for Special Needs Population

Acknowledging the many challenges outlined above in determining the number of housing units needed to accommodate Hawai'i's special needs population, Table 46 provides the estimated number of units needed between 2015 and 2025.

Table 46. Needed Units for Special Needs Population, Hawai'i, 2015-2025

Special Needs Subpopulation	2016 Population	2015-2025 Needed Units	2015-2025 Require Unit Amenities
Elderly	137,043	2,836	159
Frail Elderly	105,722	2,803	137
Severe Mental Illness	58,695		
Developmentally Disabled	55,503		
Physically Disabled	78,300	9,381	403
Alcohol or Drug Addiction	37,221		
HIV/AIDS	131	190	5
Domestic Violence Victims	7,338		
Exiting Programs (prison & foster care)	1,500 and 71		

As noted in Table 29, there are 5,639 units needed over the next ten years to accommodate elderly households across the state. Because the elderly population is almost evenly split between elderly (50.3%) and frail elderly (49.3%), the needed units are divided in the same manner. This results in 2,836 units needed for elderly households and 2,803 units needed for frail elderly households. Among elderly households, 5.6 percent require special amenities[93] in their home so 159 of the 2,836 needed units would need to include these specialized features. Similarly, 4.9 percent of frail elderly households require special amenities in their home so 137 of the 2,803 needed units must include these features.

Developmentally Disabled

Based on the results of the 2016 Housing Demand Survey, 14.5 percent of households in Hawai'i have a member with a physical disability. It was assumed, therefore, that the same proportion of the total demand for households (64,693) would be required to serve the physically disabled population (9,381 units). As was found for elderly households, only a small percentage of physically disabled

[91] State of Hawai'i Department of Health, Office of Health Care Assurance, Medicare Facilities, as of June 23, 2016.

[92] State of Hawai'i, Department of Health, Office of Healthcare Assurance, Medicare Section

[93] Such as grab bars ramps, railings, grab bars and emergency call systems.

households (4.3%) have a need for special features in their home. Approximately 403 of the 9,381 needed units would have to include these amenities.

Alcohol and Drug Addicted

Included in the special needs analysis are households in which at least one members has HIV/AIDS. Based on information obtained from Gregory House, Hawai'i's statewide HIV/AIDS housing agency, approximately 38 families per year exit their bridge housing programs into regular units. Between 2016 and 2020, this would suggest a need for 190 housing units, about 5 of which would need to be equipped with special amenities. Several factors suggest that this estimate of demand is likely to be low. Gregory House currently has 36 families on their wait list, some or all of whom are in need of housing. Further, Phocused reported 117 unsheltered homeless with HIV/AIDS so units to accommodate those persons would be in addition to the needed units estimate.

2. Recommendation

As the population of Hawai'i continues to grow and age, an identification of the demand for, and inventory of, special needs housing will become more important. Even as we recognize that not every individual that has a special need will require a specific housing option, over time a better tool for forecasting and tracking this population will be in order.

Specifically, Hawaii should develop an annually updated, county-by-county, cross-agency dataset containing at least an estimated of the number of people in special needs groups and the number of persons entering, served by, and exiting each agency (by source and destination). The dataset should also include the number of residential units (beds, rooms, apartments) available at each agency, and the occupancy rate for the year. The base information would be about 12 to 15 variables and experience suggests that number will grow according to the information needs of the system.

A similar information system exists in Hawaii today -- the State's Homeless Management Information System (HMIS). The HMIS has been in development since the mid-nineties and has benefitted from the national model of the HMIS at HUD. It would be ideal if HMIS could be used as a model for avoiding some of the pitfalls of developing the Hawaii Special Needs Management Information System. The previous section of this report described how HMIS can be used to set objectives, make definitions, monitor progress, and develop more effective strategies and tactics for housing Hawaii's people.

With respect to measuring the size and severity of housing problems, static, ad hoc, and periodic studies such as this one have many shortcomings. The most vexing of those shortcomings is that these studies do not increase the amount, value, or relevance of data in the system. A comprehensive management information system does not have that problem. We strongly recommend that the State and County agencies serving persons with special needs begin the process of developing such a system for Hawaii.

E. HOUSING AND NATIVE HAWAIIANS

There were about 462,876 households in Hawai'i in 2016. Of those, about 73,437 (15.9%) were Native Hawaiian households.[94] Approximately 60 percent of Native Hawaiian households lived in the County of Honolulu and 21 percent resided in Hawai'i County. Maui County was home to 14 percent of Native Hawaiian households and the remaining 5 percent lived on Kaua'i.

In eight of out ten Native Hawaiian households, the head of household had lived in Hawai'i all their life, compared to 36 percent in non-Native Hawaiian households. Native Hawaiian households were larger than non-Native Hawaiian households (average persons per household of 3.6 v. 2.6) and were less likely than non-Native Hawaiian households to be single member households (13% v. 26%). The median household income among Native Hawaiian households in 2015 was $59,316. The median household income among non-Native Hawaiians was 23 percent higher at $73,129. So Native Hawaiian households have lower median incomes supporting a greater number of household members than non-Native Hawaiian households.

Consistent with the findings on household income, Native Hawaiian renter households were more likely than non-Native Hawaiian renter households to be living in public housing (19.6% v. 12.8%). They were also more likely to be recipients of Section 8 rental assistance (13.1% v. 5.9%). Roughly 9,500 Native Hawaiian renter households fell into one of these two assistance categories.

Nearly three-quarters of Native Hawaiian households lived in a single-family dwelling (73.6%) versus 61 percent of non-Native Hawaiians. An additional 24 percent lived in multi-family dwellings such as townhomes, duplexes, condominiums or apartments. Native Hawaiian households were far less likely than non-Native Hawaiian households to live in condominiums (3.8% v. 12.8%).

Over half (54%) of all Native Hawaiian households owned their current residence. This was slightly lower than in 2011 (57%) but is consistent with the overall decline in homeownership. Homeownership among Native Hawaiian households varied somewhat by county, with those living in Maui County having the highest rate of homeownership (66.4%) and those in Honolulu being the least likely to own their home (49.1%). Sixty percent of Native Hawaiian households in Hawai'i County and 59 percent of those on Kaua'i owned their current residence. The median monthly mortgage payment made by Native Hawaiian households was $1,689, versus $1,973 for non-Hawaiian households. Native Hawaiian households were also less likely than other households to have paid off the mortgage on their current residence (19.1% v. 30.9%).

The percentage of Native Hawaiian and non-Native Hawaiian households renting their current residence was approximately equal (39.3% v. 37.4%). The median monthly rent paid by Native Hawaiian households ($1,352) was also very similar to that of non-Native Hawaiian households ($1,391).

Eleven percent of Native Hawaiian households surveyed were living on Hawaiian Homestead Land (7,843 households). Among these households, one-third were also on the wait list to receive a DHHL award (2,623 households). An additional 13,569 Native Hawaiian households who did not live on Hawaiian Homestead Land were also on the wait list for a DHHL award[95].

[94] According to definitions used for the study, a Native Hawaiian household is one in which at least one person identified as Hawaiian or Part-Hawaiian resides. The figures will not match Census or ACS data which define a Native Hawaiian Household as one in which the householder (head of household) is all or any part Hawaiian. The unweighted sample size for Hawaiian households for the 2016 Demand Survey was 2,230.

[95] The counts reported from the survey differ from DHHL wait list, as the survey counted households and the wait list captures all unique individuals.

The average household size among Native Hawaiian households was notably larger, 3.63 persons, than among non- Native Hawaiian households (2.62 persons). Native Hawaiian households were slightly more likely than other households to be crowded (10.9% v. 10.4%) and much more likely to be doubled up (24.8% v. 9.6%). Similarly, a notably larger percentage of Native Hawaiian households than non-Native Hawaiian households included hidden homeless persons (14.1% v. 4.2%).

The Housing Demand Survey included an estimated 608 Native Hawaiian households (0.8%) who are currently homeless. When asked where they stayed last night, 39 percent of those who provided a response indicated that they slept outside or in a car and 27 percent stayed with friends or family members for the night.

In addition, the Demand Survey results indicated that 46 percent of Native Hawaiian households would be considered at risk for homelessness. These households reported they would become homeless if they lost their primary source of income for more than three months.

When asked how soon they planned to move to a different home, 53 percent of Native Hawaiian households indicated that they would probably never move (42% of non- Native Hawaiian households). Thirty percent reported that they plan to move within the next five years, with an additional six percent planning to move in six to ten years.

When they move, Native Hawaiian households were most likely to remain on the same island (69%) and only 9 percent would relocate to another island in the State. Eleven percent of these Native Hawaiian households, however, planned to leave Hawai'i when they move. Among those planning to leave the State, 37 percent mentioned housing as a reason for their decision.

When they move, 46 percent of Native Hawaiian households expected to purchase their next home. The majority of these prospective buyers would prefer a single-family home (81%) with three (45%) or four (33%) bedrooms and two (69%) or three (19%) bathrooms.

On average, Native Hawaiian households planning to buy their next home had $24,440 available for the down payment. This was less than half the amount non-Hawaiian households reported having available for a down payment ($59,225). A larger percentage of Native Hawaiian (8.5%) than non- Native Hawaiian households (4.2%) reported that they had no funds available for a down payment. Hawaiian households planning to purchase their next home could afford to make a median monthly mortgage payment of $1,680, while non- Native Hawaiian households can afford to pay much higher monthly housing payments ($2,643).

Among Native Hawaiian households not planning to buy their next home, more than 8 out of 10 indicated that it was simply too expensive to purchase a unit in Hawai'i. Like buyers, many households planning to rent would prefer a single-family home (47%) with two (34%) or three (46%) bedrooms and one (49%) or two (43%) bathrooms. The median monthly payment affordable for Native Hawaiian households that plan to rent their next home was $1,350 (vs. $1,377 for non-Hawaiian households).

Table 47. Demand and Housing Preferences, Native Hawaiian and Non-Native Hawaiian Households, 2016

	Hawaiian Households	Non-Hawaiian Households	Total
Total Households	73,437	389,439	462,876
Effective Demand Movers	22,422	124,740	147,163
Plan to Buy	46.2%	49.7%	49.1%
Affordable Monthly Housing Payment			
Buyers	$1,680	$2,643	$2,631
Renters	$1,350	$1,377	$1,372

Finally, we have prepared a table of needed units for Native Hawaiian households (Table 48). Of the demand for 64,693 housing units between 2015 and 2015, approximately 10,530 will be needed by Native Hawaiian households. The

majority of these needed units were for Native Hawaiian households in the County of Honolulu (60%). Far fewer units would be needed for Native Hawaiian households in Hawai‘i County (20%), Maui County (15%), and Kaua‘i County (5%).

Roughly two-thirds of the 10,530 units would be needed to accommodate Native Hawaiian households that earned 80 percent or less of the HUD AMI (6,719 units). Approximately 9 percent of the needed units would be required to house Native Hawaiian households earning more than 180 percent of AMI annually.

Across the State, units needed to house Native Hawaiians were almost evenly divided between ownership (52%) and rental units (48%). Among the counties, slight differences were identified. Hawai‘i County had the highest demand for ownership units among Native Hawaiian households (68%), followed by households currently living on Maui (55%) and Kaua‘i (54%). The demand for rental units was higher than for ownership units in the county of Honolulu (54%).

Statewide, of the units needed to accommodate Native Hawaiian households, demand for single-family dwellings was roughly 60 percent (6,191 units). Again, the demand for single-family versus multi-family units varied by county. Of needed units on Hawai‘i and Kaua‘i, single-family homes were in highest demand (85% and 76%, respectively). More than 70 percent of the units for Maui County were single-family dwellings. For Native Hawaiian households in Honolulu, however, only 59 percent were single-family units.

Table 48. Housing Demand by HUD Income Classification, Native Hawaiian, Hawai'i, 2015-2025

	HUD Income Classification (% of Area Median Income)								
	Less than 30%	30-50%	50-60%	60-80%	80-120%	120-140%	140-180%	More than 180%	Total
State of Hawaii	2,068	2,285	703	1,663	1,167	1,211	457	976	10,530
Ownership Units	545	905	420	974	827	930	231	667	5,499
Single-Family	434	364	286	648	575	651	152	467	3,577
Multi-Family	111	541	134	326	252	279	79	200	1,922
Rental Units	1,523	1,380	283	689	340	281	226	309	5,031
Single-Family	975	598	206	152	172	195	83	233	2,614
Multi-Family	548	782	77	537	168	86	143	76	2,417
Honolulu	1,062	1,493	389	1,041	744	703	358	513	6,303
Ownership Units	176	473	216	567	469	517	175	308	2,901
Single-Family	96	40	119	289	246	300	104	176	1,370
Multi-Family	80	433	97	278	223	217	71	132	1,531
Rental Units	886	1,020	173	474	275	186	183	205	3,402
Single-Family	529	404	106	26	115	116	40	148	1,484
Multi-Family	357	616	67	448	160	70	143	57	1,918
Maui	344	328	108	206	201	202	32	147	1,568
Ownership Units	98	133	69	117	162	152	32	101	864
Single-Family	85	116	52	91	139	129	24	65	701
Multi-Family	13	17	17	26	23	23	8	36	163
Rental Units	246	195	39	89	39	50	0	46	704
Single-Family	132	115	39	40	31	36	0	27	420
Multi-Family	114	80	0	49	8	14	0	19	284
Hawaii	459	336	163	353	198	241	31	277	2,058
Ownership Units	171	249	111	255	179	214	0	229	1,408
Single-Family	171	176	91	238	179	185	0	202	1,242
Multi-Family	0	73	20	17	0	29	0	27	166
Rental Units	288	87	52	98	19	27	31	48	650
Single-Family	234	41	44	71	19	27	31	48	515
Multi-Family	54	46	8	27	0	0	0	0	135
Kauai	203	128	43	63	24	65	36	39	601
Ownership Units	100	50	24	35	17	47	24	29	326
Single-Family	82	32	24	30	11	37	24	24	264
Multi-Family	18	18	0	5	6	10	0	5	62
Rental Units	103	78	19	28	7	18	12	10	275
Single-Family	80	38	17	15	7	16	12	10	195
Multi-Family	23	40	2	13	0	2	0	0	80

Source: Housing Demand Survey and DBEDT Housing Demand 2015-2025.

F. SUSTAINABLE AFFORDABILITY

The sustainable lease is of interest to Hawai'i housing planners as a feasible method of producing affordable housing units that remain affordable over time. At its base, a sustainable lease is a leasehold arrangement that sustains a property within an affordable price range. Details of the arrangement are generally developed to favor lessees who need affordable housing.

Sustainable leases are relevant in Hawai'i for several reasons. First, they allow government housing agencies to maintain units as affordable over long periods of time. In the past, affordable properties were developed for sale at affordable prices but, once they are sold, the unit reverted to market pricing. Second, sustainable leases on government land can be written to reduce development costs, enhance availability, and reduce prices below the level of current market housing. Ground leases can be reduced or even eliminated. Down payments can be reduced or even fully absorbed in the sale. Lease prices can be maintained over the course of the lease period. Third, sustainable lease agreements can be written to include features that increase the acceptability of leases in general, and controlled property agreements of a specific nature. Past research has shown[96], for instance, that one problem with the lease concept in Hawai'i is the inability to pass leased property on to one's heirs. Sustainable leases can be written to allow such transfers.

Any sustainable property agreement also entails other limitations on ownership and resale. The property must be owner occupied, must be sold back to the community, and there is usually a ceiling on the resale price. .

The 2006, 2011 and 2016 Housing Demand Surveys included a set of items to support the investigation of sustainable lease as an affordable housing development tool.[97] The objective was to test the acceptability of the sustainable lease concept among potential homebuyers over the past ten years with some variation in questions each year.

Table 49. Sustainable Lease Considerations by County, 2006, 2011 and 2016

		Honolulu	Maui	Hawai'i	Kaua'i	State
Would consider a lease if						
...there was no downpayment						
	2006	66%	62%	58%	69%	66%
...there was a nominal monthly payment for the lease						
	2011	45%	52%	56%	56%	48%
...there was a $50/month payment to a non-profit						
	2016	44%	48%	62%	63%	46%
... the lease term was 60 to 99 years and renewable						
	2106	52%	55%	100%	73%	54%
	2011	51%	57%	65%	52%	54%
	2006	67%	59%	59%	65%	65%
...could pass the home to your heirs with new 60-99 year lease						
	2016	58%	66%	100%	80%	61%
	2011	52%	65%	75%	69%	58%
	2006	73%	66%	63%	73%	71%
...if non-profit would buy back house at fair ROI						
	2016	71%	71%	100%	79%	71%
If all above were true, would buy next home sustainlable leasehold or fee simple?						
Prefer sustainable lease						
	2016	15%	16%	52%	19%	16%
	2011	14%	24%	29%	21%	18%
	2006	6%	16%	7%	15%	9%
Would consider sustainable lease						
	2016	41%	37%	48%	40%	41%
	2011	26%	27%	26%	32%	27%
	2006	32%	23%	27%	32%	30%
Would still prefer fee simple						
	2016	43%	48%	0%	32%	43%
	2011	59%	49%	45%	47%	55%
	2006	62%	61%	66%	53%	61%

Base 2006: Asked of potential buyers who were not interested in leasehold property, even if fee simple property was unavailable in their price range. Base 2011 and 2016: Asked of all potential buyer households planning to purchase a unit in the State of Hawai'i.

Statewide, 41 percent of prospective buyers were willing to consider a sustainable lease if no fee simple homes were affordable. This is a significant increase from 27 percent in 2011 and 30 percent in 2006.

[96] Hawai'i Housing Planning Study, 2006, 2011.

[97] This section includes the State, the City and County of Honolulu, Maui and Kaua'i Counties. County of Hawai'i did not participate in this section in 2016.

When survey respondents were asked about the appeal of a renewable lease with terms between 60 and 99 years, over half were willing to considering buying a leasehold property (54%). The ability to pass the property on to one's heirs, who would then receive a 60 to 99 year lease, would prompt 61 percent of buyers to consider a lease.

Sustainable lease options appealed to 46 percent of potential buyers if they could make a $50 per month payment to a non-profit. If given the option to sell their home to a non-profit at a fair return on investment, 71 percent of potential buyers indicated they would be interested in a sustainable lease.

Further analysis showed that those households most likely to find sustainable leases appealing were the ones who most need them. Sustainable leases appealed to more renters than current owners. They appealed to households that were crowded and/or doubled up, and had strong support among households earning between 80 and 140 percent of the County AMI on Oahu. On Maui and Kaua'i, interest was highest among households making less than 80 percent of County AMI. Finally, sustainable leases were attractive to disproportionately high numbers of doubled-up households (more than one family in the household for economic reasons).

The results suggest that there is a role for the sustainable lease concept in developing affordable housing for Hawai'i. Leasehold arrangements can be used to produce more affordable housing units and maintain them in the affordable housing stock indefinitely. The data show that, even where leasehold property is unpopular, a sustainable lease appeals to many potential homebuyers. Once they understand how a sustainable lease works, many people will be willing to take advantage of a sustainable lease to get into their own homes.

The 2016 Housing Demand Survey investigated other options in the County of Honolulu related to keeping affordable homes affordable over time as shown in Table 50. These options included buy-back, shared appreciation, and pricing restrictions on the resale of a house purchased at a below-market price. The restrictions could be part of leasehold agreements described earlier and are frequently part of a Community Land Trust (CLT) type of organization. CLTs are defined as nonprofit, community-based organizations designed to ensure community stewardship of land. Community land trusts are primarily used to ensure long-term housing affordability."[98]

The most popular resale restriction had 37 percent of potential buyers in Honolulu, Maui and Kaua'i counties agreeing to the question: "would you be willing to buy a home at an affordable price (maybe one-fourth or a third of market price) if you knew that the home could only be sold for an affordable price (maybe one fourth to a third of market value) at the time of the sale? This offers an alternative to renting and enables you to build equity and enjoy tax deductions and other benefits of homeownership."

Table 50. Affordable Purchase Considerations

	Total	County		
		Honolulu	Maui	Kaua'i
Buy an affordable home if…				
…there was a shared appreciation restriction				
2016	28%	27%	35%	44%
…there was a buyback restriction				
2016	33%	30%	44%	57%
… it could only be sold at an "affordable price"				
2016	37%	35%	44%	60%

Source. Housing Demand Survey, 2016

The other two options also have restrictions on the sale or transfer of the property. At 28 percent, the least favored alternative was the option to buy an affordable house with the provision that upon resale the increased appreciation of the home's value would be "shared." The biggest difference between this question and the slightly more supported buy-back restriction (33%) was that the more popular option had a given time period, ten years after purchase, and stated that there would be a specific formula for establishing the resale price.

Households most interested in buying an affordable home with buy-back restrictions are similar in composition to those households preferring leasehold properties. They tend to have workforce HUD AMI levels on O'ahu and even lower income levels on Maui and Kaua'i.

[98] Community Land Trusts, Community-Wealth.org.

When comparing all three options with resale restrictions it appears that the more clearly the resale restrictions are stated and explained, the greater the appeal to potential homebuyers. In addition, there seems to be more support for options with management by a non-profit rather than the state or county.

G. HOUSING AND TRANSPORTATION

In the last decade, several housing planning centers developed Affordability Indices based on the combined costs of housing and transportation relative to HUD median income for many areas throughout the United States, including Hawai'i. [99]

Table 51. Examples of O'ahu Housing & Transportation Costs

Areas on Oahu	Housing Cost (% of HH income)	Transportation Cost (% of HH income)	Combined (% of HH income)
Kapolei	39%	20%	59%
Mililani	36%	20%	56%
Waipahu	32%	19%	51%
Urban Honolulu[100]	29%	16%	45%

The table above shows examples of the Affordability Index for select communities around O'ahu. Newer communities such as Kapolei or Mililani were developed targeting working class families where land was available, but higher transportation costs potentially offset some of the benefit of living in these communities. This could make the total cost of living in these communities out of reach for working class families.

Concepts such as these were the foundation for transit-oriented-development (TOD) nationally - building affordable housing centered on public transportation hubs in order to keep housing and transportation costs affordable to working class households. Questions related to the interest in living near a transportation hub were included in the 2016 Housing Demand Survey for the first time.

On O'ahu, the Honolulu Area Rapid Transit (HART) includes TOD as a major aspect of the project. Respondents to the Housing Survey who were likely to move within the next five years were asked if they would "want to move closer to one of the rail stations when they are built.[101]

Twenty-four percent of households said they would want to move closer to one of the rail stations. The group was made up predominantly of commuters. Fully 73 percent of them commuted to work, traveling more than a mile to work on four or more days a week. Twenty-eight percent of the group used public transportation to commute at least three or more times a week, compared with just 13 percent of those who did not want to live closer to a planned rail station.

On Maui and Kaua'i, transportation costs had a similar impact on affordability, as shown in the tables below.

Table 52. Examples of Maui Housing & Transportation Costs

Areas on Maui	Housing Cost (% of HH income)	Transportation Cost (% of HH income)	Combined (% of HH income)
Lahaina	36%	23%	59%
Kīhei	36%	23%	56%
Kahului	34%	23%	57%

Table 53. Examples of Kaua'i Housing & Transportation Costs

Areas on Kaua'i	Housing Cost (% of HH income)	Transportation Cost (% of HH income)	Combined (% of HH income)
Po'ipū	43%	29%	72%
Kīlauea	38%	27%	65%
Kapa'a	35%	26%	61%
Līhu'e	37%	24%	60%

When likely movers on each of these islands were asked if they would like to move to a place closer to bus stops, 33 percent on Maui and 29 percent on Kaua'i responded affirmatively. These percentages are higher than those given by O'ahu residents. However, it is likely that the

[99] The Center for Neighborhood Technology's Housing and Transportation (H+T®) Affordability Index, http://htaindex.cnt.org/.

[100] This area includes from Hālawa to Wai'alae Kāhala.

[101] Note that fielding for the survey was completed in April 2016, prior to June 2016

reasons Maui and Kaua‘i residents want to move closer to a bus stop are different from those wanting to move closer to rail. Only 63 percent of Maui movers who want to be closer to a bus stop reported that they commute to work by traveling more than one mile on four or more days a week. The percentage in this category was even lower on Kaua‘i (54%). Likewise, only 11 percent of this group on Maui use public transportation three or more times a week, and on Kaua‘i it is only 14 percent.

The discrepancies between O‘ahu and the other two counties may be due to differences in the perceived benefits of rail versus bus, or that new housing developments are expected around rail stations compared with residents already knowing what is currently available around bus stops.

V. PUBLIC SECTOR HOUSING RESOURCES

HHPS has always assembled data on housing of all types and across all price levels. At the same time, the data have been most frequently and successfully applied to public sector housing issues. In part, that is because HHPS has been largely funded by the public sector and HHPS reports are published by government agencies. More important, the study has always found that housing need is greatest at the lower end of the market. Supply, demand and needed units estimates show that housing shortages are more prominent among lower income families seeking lower priced units. It seems appropriate then that HHPS ends up supporting planning efforts for public sector housing.

A. HOUSING FUNDING PATTERNS

One way of looking at recent housing planning efforts in Hawai'i is to review how we spend our housing dollars. In the public sector, funding comes largely from two sources: federal and state government.

1. Federal Allocations

Before 2010, federal allocations for housing in Hawai'i amounted to about $133 million per year (HHPS, 2011). Allocations were high in 2000 and 2001, and then leveled off at about $70 million a year during the middle of the decade. With added funds from the American Recovery and Reinvestment Act of 2009, HUD spending rose to over $200 million a year in 2008 and 2009 and settled back to $161.3 million in 2010. Between 2012 and 2015, expenditures grew substantially to a level of $225.6 million in 2015.

A breakdown of Federal expenditures in Hawai'i by program and county is shown in Table 54. We have included allocations from HUD and from the U.S. Department of Agriculture (USDA) Rural Development Program. Those are two major sources of funding for housing development and maintenance in the States. The allocations are shown for 2015 along with growth estimates (annual percent change) since 2014.

Total HUD allocations for 2015 amounted to about $459.6 million and that figure was up about 8 percent since 2014. The largest part of the increase was due to a substantial increase in the HUD Mortgage Insurance program. The total for 2015 was about $233.9 million, which was more than 50 percent of total HUD allocations for the year. Furthermore, mortgage insurance outlays represented the largest increase in federal funding. Funding for the other programs that support public housing development and maintenance were all similar to what they have been since 2011.

The two programs that can be used to produce or preserve housing units, CDBG and HOME funds, amounted to about $17.5 million. The level of funding has been relatively steady over the last few years. Two other programs used for housing production, Section 202 Supporting Housing for Elderly and Section 811, Supportive Housing for Special Needs were not funded this year.

The USDA Rural Development funds allocated in 2015 amounted to $155.5 million. That was up 26 percent from 2014 and almost 85 percent since 2010. Direct Program allocations were up 40 percent and Guaranteed Program allocations were up 30 percent.

2. State Allocations

Nationally, most housing funds spent by local government have been federal money. States generally do not contribute large sums to housing development. In Hawai'i, State allocations to housing have been substantial throughout the last decade (Table 55).

Between 2000 and 2011, the total State allocation to housing amounted to about $271.5 million or $25 million per year (HHPS 2011, Table 55). The allocation pattern reflected changes in State revenues from year to year.

The prosperity of the first two years of the last decade produced large allocations to housing. The post 9/11 economy saw cutbacks and the

housing boom years brought larger legislative allocations to housing and homelessness. The Great Recession 2008-2009 brought back lower allocations.

Legislative allocations were of two types. First, the State issued general obligation bonds to fund specific projects. They were usually associated with Capital Improvement Project (CIP) appropriations for public housing and revolving funds with finance housing developers. These revolving funds were also the targets of withdrawal of allocations in years when the economy was weaker. In addition, the State appropriated General Funds to support homeless shelters and homeless services, as well as public housing renovations and rent subsidies.

Table 54. Federal Housing Expenditures in Hawai'i, 2016

Funding Type	Total	Receiving Agency				
	Hawai'i	State Agency	Honolulu	Hawai'i	Maui	Kauai
HUD Funding Total	$ 459,550,897	$ 69,853,543	$ 241,322,807	$ 50,522,415	$ 72,313,751	$ 25,538,381
HUD Funding Subtotal	225,588,297	69,853,543	96,513,106	24,314,406	26,569,700	8,337,542
CDBG	12,205,032	-	7,285,838	2,491,306	1,731,191	696,697
HOME	5,313,503	3,023,348	2,290,155	-	-	-
HOPWA (Incl. Competitive grants)	647,808	208,047	439,761	-	-	-
Emergency Solutions	1,095,307	439,415	655,892	-	-	-
Continuum of Care Homeless Asst.	11,366,445	2,100,869	9,265,576	-	-	-
PIH Programs: Section 8 Vouchers	108,365,846	26,061,912	45,679,847	16,010,021	15,019,076	5,594,990
Section 8 Vouchers- Admin. fee	9,418,349	2,257,521	3,569,053	1,540,479	1,408,005	643,291
Public Housing Operating Subsidy	25,982,721	25,982,721	-	-	-	-
Public Housing Capital Funds	9,184,654	9,184,654	-	-	-	-
Project-based Section 8	34,790,688	-	24,744,336	3,511,368	5,348,460	1,186,524
Other	7,217,944	595,056	2,582,648	761,232	3,062,968	216,040
Mortgage Insurance Subtotal	233,962,600	-	144,809,701	26,208,009	45,744,051	17,200,839
USDA Rural Development Funds	155,544,466	155,544,466	-	-	-	-
GRAND TOTAL	615,095,363	225,398,009	241,322,807	50,522,415	72,313,751	25,538,381

Source: HUD Honolulu Field Office; SFH State Director Summary Reports, 2010 through 2015. Note: HUD expenditures are all listed as fiscal year 2016, although certain funds, including the Continuum of Care and Fair Housing funds are subject to a one-year lag.

Table 55: State Legislative Funding for Homeless and Affordable Housing, 2010 to 2017

	Rental Housing Services	Rental Assistance Services	Homeless Services	HPHA Administration	TOTAL
2010	$ 42,047,724	$ 26,918,657	$ 19,892,074	$ 37,407,890	$ 126,266,345
2011	$ 41,225,482	$ 26,715,174	$ 15,303,607	$ 36,574,479	$ 119,818,742
2012	$ 44,655,887	$ 26,934,715	$ 16,894,932	$ 37,328,008	$ 125,813,542
2013	$ 43,834,159	$ 26,934,715	$ 16,894,932	$ 37,328,008	$ 124,991,814
2014	$ 45,852,118	$ 26,936,542	$ 19,617,847	$ 37,784,669	$ 130,191,176
2015	$ 87,111,404	$ 27,098,010	$ 20,782,667	$ 41,679,097	$ 176,671,178
2016	$ 91,748,311	$ 27,350,584	$ 20,284,312	$ 42,850,598	$ 182,233,805
2017	$ 92,048,331	$ 26,744,109	$ 30,790,151	$ 43,013,178	$ 192,595,769

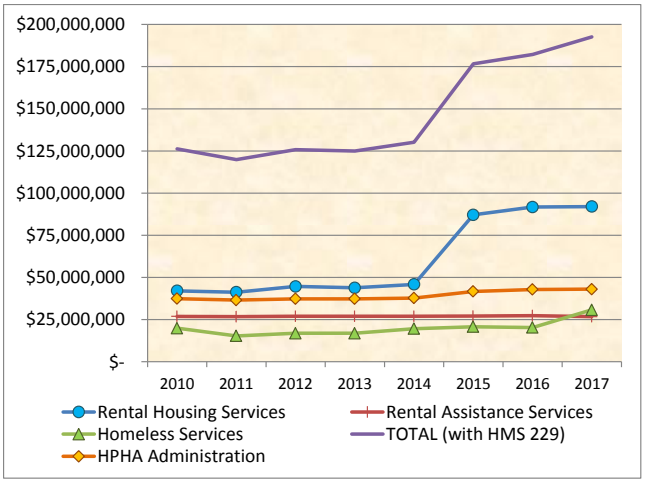
Source: Budget, House and Senate approved allocations, 2016.

After 2011, State allocations to housing continued to increase at a very low rate through 2014. Those first four years of the economic recovery saw prices begin to rise and rent stay relatively stable. The housing stock, as we have noted, did not increase.

In response, State legislators started to increase funding for housing programs in 2015. The increases continued through 2016 and are forecast to rise again in 2017.

State funding has reached about half the level of federal funding for housing. Perhaps more important, programs reporting the greatest funding increases are those that support rental housing development. Figure 19 presents a graphic view of the changes in State funding for housing in the last decade.

Figure 18. State Allocations for Housing, 2010-2017



Source: Table 55

Funding support from federal and state agencies is used is for a broad range of housing activities. A relatively small part of federal funding can be used to increase the housing stock.

Recapping, HUD funding under the CDBG and HOME programs can be used to produce or preserve units, for acquisition, or provide infrastructure. Those funds amount to about 3 percent of total HUD funding in 2015 and have been steady over the past five years. USDA Rural Development funds are often used to develop infrastructure; to fund a project-based rent subsidy, or to provide direct loans and loan guarantees to development projects. While the level of funding has been high and growing in recent years, it is difficult to estimate how many housing units may have been produced.

State funding for housing has been lower than federal funding, but it has increased by a larger amount in the past few years. A substantial part of the increase shown earlier was appropriated to refurbish federal and state public housing units. That did not increase the housing supply.

The State legislature has been generous with CIP appropriations for the Rental Housing Revolving Fund (RHRF), which provides equity gap financing[102] to support rental housing development or preservation. As of June 2016, county gap financing from the RHRF has assisted in the construction or preservation of over 4,300 units.

There would be very few affordable housing units produced today without the full list of federal- and state-funded resources available in Hawai‘i. It is not unusual for a rental project to be financed by tapping several funding sources including LIHTC, HOME (or CDBG), and RHRF. Few, if any, such projects could be produced without the combination and cooperation of federal, state, and private financing.

The increases in both federal and state funding are especially important because the costs of producing affordable housing are increasing. Construction costs have been rising and pushing funding gaps up with them.

In sum, federal and state funding have been rising. A substantial proportion of those federal funds are not applied to producing new units, either because they are specifically intended for other purposes such as mortgage insurance or operation subsidies. State funds have been especially useful in providing gap funding for affordable rental projects. We can expect a greater need for these funds if housing production is to be increased.

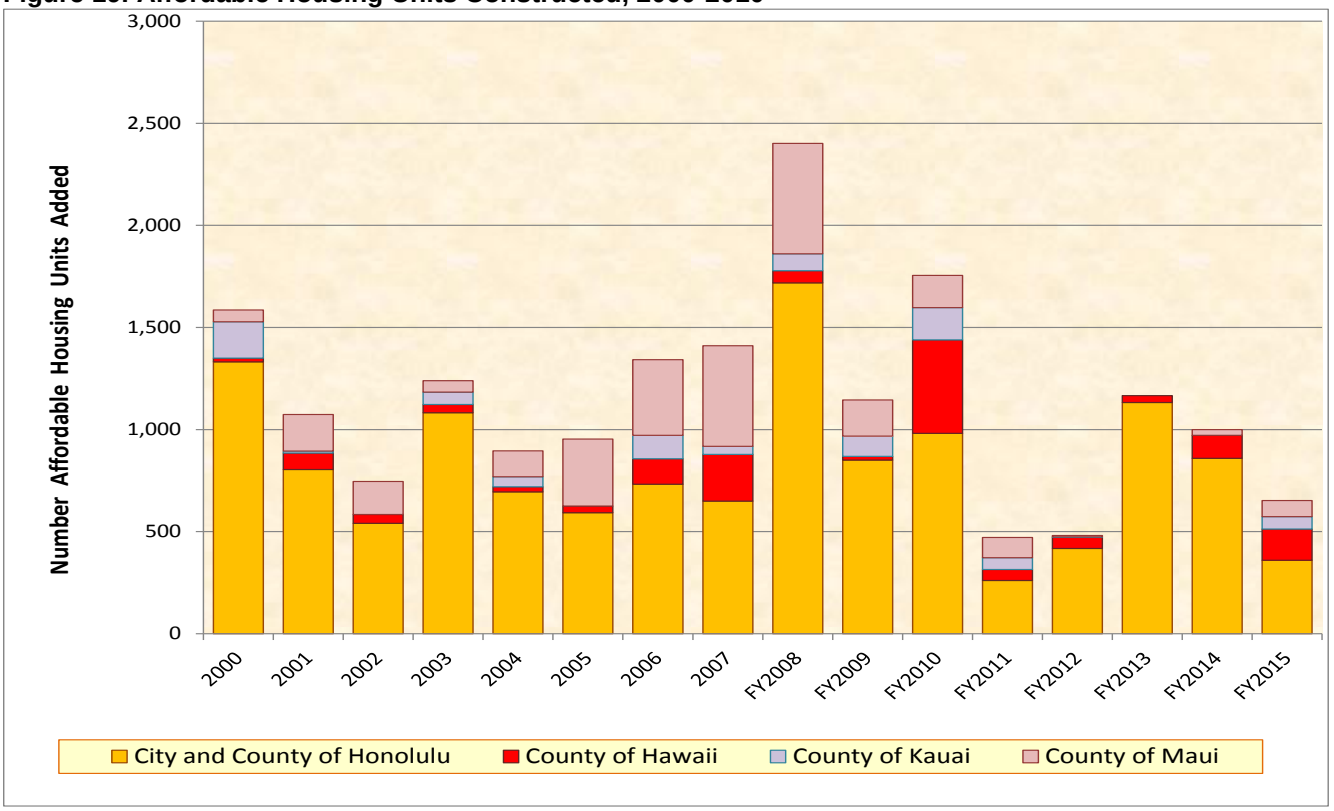
[102] Equity gap funding is intended to cover the difference between project costs and available sources of construction and permanent financing for affordable rental or mixed-use projects.

B. GOVERNMENT-ASSISTED HOUSING

While we cannot generate an itemized list of units produced by each of the federal and state funding programs, we know that all of the publicly assisted units developed in the past used federal and state funding sources discussed above, government development tools, or were required of private developers for land use and zoning entitlements (e.g., unilateral agreements). The list of housing units produced with the assistance of federal, state, and county resources is maintained by the Hawai'i Housing Finance and Development Corporation and has been updated for 2016. The list includes units in housing projects developed with any federal, state, or county resources between the years 2000 and 2015. Government assisted units included those the government financed, developed or required through the State Land Use commission, county development plans, or zoning. Both added units and preserved units are included in this total.

Figure 19 presents a graphic representation of the units produced in each of Hawai'i's four counties by year in which the units were completed.

Figure 19. Affordable Housing Units Constructed, 2000-2010



Source. Hawai'i Housing Finance and Development Corporation.

Between 2000 and 2010 there were 14,548 government-assisted affordable housing units constructed or preserved (through acquisition or rehabilitation) in the State of Hawai'i. That was just over 1,300 units per year. Between 2011 and 2015 (inclusive), State and county housing agencies added or preserved 3,812 new government assisted units or about 763 per year.

The pattern of government-assisted housing construction seems to lag private sector production by two or three years. The largest number of units (fewer than 2,500 units) was assisted by government in 2008. Production fell sharply in 2009 and then rebounded again in 2010, which housing directors feel was the result of ARRA funds made available for shovel-ready projects. For the next two years, production was the lowest of the decade, with less than 500 units

per year. Government-assisted units rose to over 1,000 units per year in 2013 and 2014.

Table 56 shows some additional detail for government-assisted housing production over the last 15 years. Consistent with housing plans across the state, affordable units constructed under federal program guidelines and using public sector funding, were mostly multi-family and rental units. Average annual production fell by about 42 percent after 2010 (1,300 units per year dropped to 763 units per year). Decreases were highest for Kauaʻi County (-82%), but production fell in all four counties.

Table 56. Types of Units Constructed, 2000-2010

	Government-Assisted Units Added, 2000-2010			Government-Assisted Units Added, 2011-2015		
	Total	Percent Multi-family	Percent for Rent	Total	Percent Multi-family	Percent for Rent
State	14,548	82	76	3,814	65	45
Honolulu	9,977	96	89	3,029	66	47
Hawaiʻi	1,131	69	76	408	56	38
Kauaʻi	792	91	85	164	94	94
Maui	2,648	34	25	213	95	49

Source. Hawaiʻi Housing Finance and Development Corporation. Note: Data for 2000 through 2011 were update for this report adding more than 4,500 units to the list.

The types of units produced also changed since 2010. Kauaʻi County produced a higher percentage of both multi-family and rental units than in the previous decade.

C. HOUSING PLANS, 2010-2015

As in all States, federal spending on housing production and assistance is distributed according to formal plans. This section looks at State and County strategies to housing issues given each of their resources and constraints.

Formal housing planning for federal funds is summarized in the Consolidated Plans submitted to HUD by Hawai`i's five housing coordinating agencies.[103] Appendix Tables E-2 and E-3 present a brief overview of the Consolidated Plans published in 2010.

The summary is an oversimplification of the work planned by Hawai`i's housing agencies during those five years. It provides a high-level overview of what was scheduled in 2010 and what was finally scheduled for 2015.

The Consolidated Plan describes the strategies that housing agencies in Hawai`i apply to manage housing issues that affect the low end of the housing market.[104] Very broadly considered, the plan involved three strategies applied to four target groups.

The three strategies were construction, financial assistance to renters and homeowners, and supportive services. Construction funds were intended to produce new or refurbished housing units. They were used for construction financing, planning and design work, new construction, property management, funding and supporting rehabilitation, and refurbishing existing units. Financial assistance included transfer payments and other services intended to increase or sustain ownership or rental stability among low-income households. Supportive services provided a range of services that are generally

[103] The full set of HUD documents designed to develop and monitor housing planning includes the Consolidated Plan, annual reports to update the Consolidated Plan, the CAPER to evaluate progress toward objectives.

[104] Note that Consolidated Plans include other housing plan elements such as eliminating impediments to Fair Housing. Here we deal only with the direct housing issues.

needed by occupants, especially those with special needs.

The four target groups are homeowners or prospective homeowners, low-income renters, special needs groups, and persons who are homeless or at risk of homelessness. All four of these groups and their housing needs have been covered in previous sections of this report.

State and county Consolidated Plans describe how Federal funds are to be allocated to the achievement of planning objectives summarized in Appendix Tables E-2 and E-3.

Table 57. Types of Units Constructed, 2000-2010

Counties	Objective	Build or Rehab		Financial Assistance		Other Assistance	
		owner	rental	owner	rental	owner	rental
Hawaii, Kauai, Maui	Homeowner	63		1			
	Low-Income Rental		12	100			
	Special Needs		61	75		5,500	
	Homeless			275	150	10,780	400
Honolulu	Homeowner			100			
	Low-Income Rental		400			50	
	Special Needs					150	
	Homeless		255		30	3,750	250
State	Homeowner	63	-	101			
	Low-Income Rental		12	100		50	
	Special Needs		61	75		5,550	
	Homeless		-	275	180	14,530	
Total		63	73	551	180	20,130	-
		units	*units*	*households*	*persons*	*persons*	*households*

Source. Hawai'i Housing Finance and Development Corporation (HHFDC) *Affordable Housing Units FY 2011-2015*, July 25, 2016.

Table 58. Types of Units Constructed, 2000-2010

Counties	Objective	Build or Rehab		Financial Assistance		Other Assistance	
		owner	rental	owner	rental	owner	rental
Hawaii, Kauai, Maui	Homeowner	14		1			
	Low-Income Rental		10	20			
	Special Needs		36	15		1,136	
	Homeless		32		610	2,265	78
Honolulu	Homeowner			27			
	Low-Income Rental		52		1,830	185	
	Special Needs			155			
	Homeless			50		2,348	
State	Homeowner	14		28			
	Low-Income Rental		62	20	1,830	185	
	Special Needs		36	170		1,136	
	Homeless		32	50	610	4,613	78
	Total	14	130	268	2,440	5,934	78
		units	*units*	*households*	*persons*	*persons*	*households*

Source. Hawai'i Housing Finance and Development Corporation (HHFDC) *Affordable Housing Units FY 2011-2015*, July 25, 2016.

In 2010, the Consolidated Plans show that heaviest use of federal funds would be aimed at services associated with housing programs. Some 20,000 individuals were to receive services between 2010 and 2015. About 731 households would receive financial assistance in obtaining and maintaining their housing units. Finally, the plan called for construction or rehabilitation of 136 housing units, about 54 percent of which would be rental units.

The target for supportive services was adjusted to 5,934 persons served. Financial services would benefit 2,708 households, an increase of 270 percent over the initial five-year plan. The number of units planned to be constructed or refurbished went from 136 to 144, and increase of about six percent. Relevant to this study, the new units would be 90 percent rental units.

The Consolidated Plans demonstrate how federal government resources were used to plan for and provide housing and housing programs in the public sector. Most funding was used to pay for financial assistance and ancillary services rather than housing construction. Financial assistance was used to place and sustain families in affordable housing. Relatively few new units were constructed or refurbished in a given year, and the large majority of those were rental units.

The plans for 2010 through 2015 were not unlike those of the previous five-year plan. Federal funds are used primarily to facilitate housing assistance programs, both financial and service-related. A small part of federal funding, recently augmented with increased state allocations, are used to build units.

D. IMPLICATIONS FOR PLANNING

As noted throughout the report, Hawaii's housing market is unique in many ways. We were ranked in the top five states for prices, rents, homelessness, and vacant and unavailable units. Our housing market is complicated; it changes frequently and it is anything but normal. Its extremes make housing planning difficult and its uniqueness makes it hard to borrow policies developed in other places.

1. Housing Realities

Our housing prices are high because:[105]

- geography provides little room for housing
- we have great amenities[106] and spend the most money telling people about them
- we have the second or third highest construction costs in the nation
- our average household income and wages are high relative to other states
- we have the most highly regulated housing market in the nation by a large margin.

As a result, Hawai'i also has the lowest rate of homeownership in the country, some of the highest crowding rates, and the highest rate of homelessness among the 50 states and the District of Columbia.

Over the years, we have reacted with housing policy that has led us to make heavy use of multi-family units and leasehold residential properties. The Census tells us we have unusually high rates of both. Our housing stock is not, however, of poor quality. The units are getting older, but not necessarily run down. By comparison to the rest of the country, the average unit age is low and the percentage of non-standard or mobile housing units is extremely low. HHPS has been reporting for years that the most troublesome feature of Hawai'i's housing stock is a lack of units suited to the needs of low-income households. From their point of view, the quality of our housing stock may be too high.

Hawai'i does not have high poverty rates.[107] Our average household income is relatively high and so is our average household size. Our average wages are also relatively high. Hawai'i's average wage in 2010 was $43,740 compared with the national average at $41,250. Our wages were 17th highest in the nation. In 2014, the average wage in Hawai'i rose to just over $47,000, while the national average pulled ahead to about $48,000. With a relatively high average household income, income is not a major part of our housing problem. Neither is the gap between the very poor and the very rich. The Gini coefficient measures that gap. Scores are now published regularly by the Census Bureau. Hawai'i's Gini score in 2014 was .43, the same as it was in 2010. Differences across the counties were negligible. The national Gini score was .45.

HHPS 2016 findings show that housing demand and supply continue to change in response to market forces, but always show the same characteristics that make us one of the more difficult housing markets in the nation.

2. Housing Strategies

Housing planners in Hawai'i have always worked toward developing strategies that are relevant to housing market realities. Many direct approaches to the causes of our high housing prices, however, are not easy to manipulate. There is little we can do about the geographic realities that limit our capacity to produce housing.

There is also not much we can do to hold back the external demand created by Hawaii's amenities. We live in one of the most pleasant places on the globe. It has always drawn migrants seeking a better life and will likely continue to do so. At the same time, this study suggests that increasing use of Hawaii's residential housing stock for second homes and short-term visitor rentals may be a significant new problem for our housing market.

Approaches to high construction costs range from seeking lower-priced vendors to obtaining variances from design requirements (without sacrificing health and safety) utilizing Chapter

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[105] The rich literature on this subject has recently been expertly summarized by Sumner LaCroix. See LaCroix, Sumner. *New perspectives on land and housing markets in Hawai*'i, UHERO Research Reports, January 27, 2016. LaCroix makes the case that Hawai'i's high housing prices are not a recent phenomenon but have been high since the fifties.

[106] Weather, scenery, friendly people, cultural richness, slow-paced living, etc.

[107] ACS 2014 shows that 11 percent of Hawai'i Households had income below the poverty level. In 2009, Hawai'i had the 43rd highest poverty rate among the states and District of Columbia.

201H, HRS. The literature suggests, however, that construction costs are a minor part of the equation. The difference between Hawai'i's average construction costs and those of other states is not as large as the difference in average housing prices.

Reducing the impact of Hawai'i's regulatory environment has been discussed by planners and regulators for at least the last two decades. Suggested strategies have included streamlining the rules, eliminating duplication, setting up one-stop permitting and review systems, fast-tracking affordable projects, and many others. The City and County of Honolulu's most recent effort in this direction is to reduce and streamline barriers to regulations. Their introduction of permits for accessory dwelling units (ADU) and Kaua'i County's support of a rental version of ADUs go beyond merely streamlining the existing regulations to actually reduce regulations in support of affordable housing construction.

Most experts point to regulation as the chief driver of supply inelasticity and high housing prices in the U.S.[108] Some jump to the conclusion that reducing regulations will result in lower prices. Some follow with the caution that changing a highly regulated housing environment may require more time and more political will than are available. Others[109] doubt *laissez-faire* planning can solve the problem because there is more than one barrier to supply elasticity. Reducing regulation alone will not bring the market to equilibrium.

a. Building Affordable Housing

Hawai'i planners will continue to make the most effective use of federal and state funding to support housing production and provide housing assistance for people in need. Recent history suggests we may want to review which types of units are most important to us, and how we can produce those types.

We can continue to apply current inclusionary housing regulations to build permanently affordable housing stock.[110] We can use this route when private sector development is strong in response to high demand and rising incomes.

Hawai'i has always had a relatively cordial and effective relationship with military officials stationed here. It will be useful to maintain communications in order to negotiate for additional housing unit construction, slower growth for BAH levels, and other policy changes that may affect off-base housing of military personnel. That will be particularly important should military forces be reduced significantly in the future.

b. Refurbishing

Remaining public housing units in need of repair or upgrading attest to the ready availability of units for Hawai'i and for lower-income residents. These and other government-assisted, qualified units are low-hanging fruit, and represent opportunities to expand our sustainable affordable housing stock.

We have seen an increase in housing units the U.S. Census calls "vacant for other reasons". Their growing number includes homes held off the market because they need refurbishing. Developing programs to assist property owners with this process can bring these units back into the housing stock at a cost that is lower than building new units.

c. Efficient Use of Existing Stock

We might also devote greater attention to more efficient use of current housing stock by

[108] Glaeser, Edward L., Joseph Gyourko and Raven E. Saks. 2005. Why have housing prices gone up? *American Economic Review*, Vol. 95, No. 2, pp. 328-330. See also Ihlanfeldt, Keith R. 2009. Does comprehensive land-use planning improve cities? *Land Economics*, Vol. 85, No. 1, pp. 74.86, 2009.

[109] Sharam, Andrea, Lyndall Bryant, and Thomas Alves. 2015. De-risking development of medium density housing to improve housing affordability and boost supply. *Australian Planner* Vol. 52, no. 3 (2015): 210-218.

[110] Jacobus, Rick. *Inclusionary housing: Creating and maintaining equitable communities*, Policy Focus Report PF044, Lincoln Institute of Land Policy, 2015.

developing solutions other than building government-assisted housing units.

For example, the need for permanent supportive housing (PSH) is shown in the need to house high-acuity homeless and to increase the number of units available to house persons with serious physical and mental disabilities (special needs). This turns our attention to housing units in the group quarters inventory, a sector of the housing stock that sometimes gets lesser attention.

The study of homeless households and how they flow through the homeless services system in Hawai'i suggests that existing households will be the permanent housing units called for by Housing First policy. Homeless programs are already placing homeless people in affordable units and finding them places in the homes of family and friends. It is only a step further to consider housing people in existing, unrelated households.

The concept of making use of under-utilized housing units has arrived. We have seen the Mayor of Vancouver, British Columbia call for a special tax on vacant and under-utilized housing units in his city.[111] Along with such tax policies, it may also be useful to consider positive incentives to motivate owners to put units back on the market.

d. Taxes and Incentives

Dealing with underutilized housing is only one place in which incentives came up in this study. The literature and our informants suggested, for instance, that incentives be applied to encourage businesses, especially the visitor industry, to provide housing for their work force. We have also seen the Hawai'i State Legislature develop a bill to provide incentives for property owners to accept Section 8 vouchers.

Another suggestion was that incentives might be used to motivate property owners and managers with units near military bases to rent to civilian households rather than military families.

Finally, Hawai'i's U.S. Senator Brian Schatz recently joined several of his Senate colleagues in asking that controls be applied to Airbnb to limit their activities in Hawai'i. The problem, as the Senator sees it, is that units used for short-term vacation rentals have been shown to include many residential housing units. Those units, formerly available to Hawai'i renters, have been removed from the housing stock. In a housing market where affordable housing is already in short supply, removing large numbers of housing units from the stock can cause serious problems.

Hawai'i's State Legislature passed a bill during the 2016 Session that would allow the State to use transient accommodations brokers (online booking agents) to collect taxes from Hawai'i property owners who rent their home or other real estate to visitors on short-term contracts.[112] In July 2016, Hawai'i Governor David Ige vetoed the Bill citing two reasons for his action. First, he said, the bill would shield non-compliant property owners from prosecution under existing county ordinances restricting the number or activities of short-term renters. Second, the Governor felt that the bill might actually encourage visitor rentals over local renters "at a time when affordable rental housing within our State is severely stressed and homelessness remains a critical statewide concern".[113]

This issue is not unique to Hawai'i. It does not affect only the high-priced markets in states whose representatives joined Senator Schatz in his endeavor. It also causes housing problems in large cities around the world, from Paris, France to Jackson Hole, Wyoming. It will be an important issue to follow for the next few years.

[111] The Mayor said, "Vancouver housing is first and foremost for homes, not a commodity to make money with" (Honolulu Star Advertiser, 2016). Vancouver has Canada's highest home prices (1.2$US median) and a 0.6 percent rental vacancy rate.

[112] House Bill 1850.

[113] Statement of Objections to House Bill No. 1850, Governor David Ige to the members of the 28th Legislature, State if Hawai'i, July 11, 2016.

VI. APPENDIX

APPENDIX A: HOUSING TRENDS

The tables presented in Appendix A, referred to in prior iterations of the HHPS as the "A Tables" or "Trend Tables", provide detailed demographic and housing related data for the State of Hawai'i and its counties. This data is taken from the Housing Demand Survey from each year. The fundamental components of the Housing Demand Survey were designed to ensure compatibility with previous versions. These tables allow for the evaluation of trends in the Hawai'i housing market across the past 25 years.

Table A-1. Characteristics of Housing Units, 1992, 1997, 2003, 2006, 2011 and 2016

County	Year	Total Households	Tenancy		Unit Size (Bedrooms)			
			Own	Rent	Studio or 1 Bedroom	2 Bedrooms	3 Bedrooms	4+ Bedrooms
Honolulu	1992	247,349	48%	52%	20%	32%	30%	19%
	1997	272,234	54%	46%	16%	27%	36%	21%
	2003	292,003	61%	39%	15%	25%	35%	25%
	2006	303,149	59%	41%	18%	25%	37%	20%
	2011	310,882	56%	44%	15%	21%	37%	26%
	2016	317,459	55%	45%	17%	26%	32%	25%
Maui	1992	34,266	61%	39%	14%	26%	46%	15%
	1997	39,252	65%	35%	12%	23%	46%	19%
	2003	43,687	61%	40%	13%	28%	42%	17%
	2006	49,484	60%	40%	15%	27%	43%	17%
	2011	54,132	54%	46%	17%	26%	37%	20%
	2016	55,059	57%	43%	16%	25%	38%	20%
Hawai`i	1992	39,789	68%	32%	7%	25%	53%	14%
	1997	46,271	72%	28%	8%	21%	54%	17%
	2003	54,644	70%	30%	12%	19%	50%	19%
	2006	61,213	69%	31%	11%	22%	49%	18%
	2011	67,096	67%	33%	13%	21%	47%	19%
	2016	66,989	66%	34%	12%	23%	46%	18%
Kaua`i	1992	16,981	60%	40%	12%	19%	53%	15%
	1997	18,817	67%	33%	8%	19%	57%	15%
	2003	20,460	66%	34%	11%	20%	53%	17%
	2006	21,971	66%	34%	10%	21%	51%	18%
	2011	23,201	59%	41%	12%	19%	51%	18%
	2016	23,369	63%	37%	13%	17%	50%	19%
State	1992	338,385	52%	48%	17%	30%	35%	18%
	1997	376,574	58%	42%	14%	25%	40%	20%
	2003	410,794	62%	38%	14%	24%	39%	23%
	2006	435,818	61%	39%	17%	24%	39%	20%
	2011	455,311	57%	43%	15%	22%	39%	24%
	2016	462,876	57%	43%	16%	25%	36%	23%

Source: Housing Demand Survey, 1992, 1997, 2003, 2006, 2011, and 2016

Table A-2. Household Income Data, 1992, 1997, 2003, 2006, 2011, and 2016

County	Year	Total Households	Household Income						Median HH Income
			Less than $15,000	$15,000 to $24,999	$25,000 to $49,999	$50,000 to $74,999	$75,000 to $99,999	$100,000 or more	
Honolulu	1992	247,349	N/A	24%	29%	12%	6%	7%	$36,974
	1997	272,234	9%	9%	28%	15%	9%	6%	$42,234
	2003	292,003	8%	10%	36%	18%	11%	17%	$47,917
	2006	303,149	13%	7%	26%	22%	12%		$58,385
	2011	310,882	12%	7%	25%	22%	9%	25%	$59,076
	2016	317,459	9%	6%	18%	21%	15%	31%	$73,859
Maui	1992	34,266	N/A	20%	36%	11%	2%	3%	$35,843
	1997	39,252	10%	8%	33%	15%	7%	6%	$38,908
	2003	43,687	9%	13%	34%	19%	14%	11%	$44,297
	2006	49,484	11%	8%	29%	20%	15%	17%	$49,795
	2011	54,132	12%	10%	27%	19%	11%	21%	$58,424
	2016	55,059	11%	8%	23%	21%	12%	25%	$59,799
Hawai‘i	1992	39,789	N/A	24%	39%	11%	3%	4%	$34,063
	1997	46,271	14%	14%	30%	12%	4%	4%	$31,831
	2003	54,644	14%	12%	39%	17%	9%	9%	$36,905
	2006	61,213	13%	10%	29%	22%	10%	16%	$51,920
	2011	67,096	18%	13%	25%	17%	10%	17%	$44,696
	2016	66,989	16%	11%	28%	17%	11%	18%	$44,876
Kaua‘i	1992	16,981	N/A	20%	36%	10%	5%	3%	$36,966
	1997	18,817	11%	13%	30%	15%	5%	3%	$34,891
	2003	20,460	13%	12%	37%	18%	9%	12%	$42,205
	2006	21,971	10%	10%	27%	23%	11%	19%	$53,116
	2011	23,201	13%	11%	25%	19%	9%	19%	$49,730
	2016	23,369	11%	10%	26%	21%	11%	21%	$58,869
State	1992	338,385	N/A	24%	31%	12%	5%	6%	$36,289
	1997	376,574	10%	10%	29%	15%	8%	6%	$39,883
	2003	410,794	10%	10%	36%	19%	10%	15%	$46,086
	2006	435,818	13%	7%	27%	21%	12%	20%	$58,393
	2011	455,311	13%	8%	26%	21%	10%	23%	$58,700
	2016	462,876	11%	7%	20%	21%	14%	28%	$72,868

Source: Housing Demand Survey, 1992, 1997, 2003, 2006, 2011, and 2016

Note. The number of total households for the Housing Demand survey represents an SMS estimate developed using ACS 2009 data prior to the release of Census 2010. The total households for each county differs by less than one percent from Census 2010 figures presented in Table 8.

Table A-3. Households at HUD Income Guidelines by County, 1992, 1997, 2003, 2006, 2011 and 2016

County	Year	Total Households	HUD Household Income Guidelines					
			30% or less	Over 30% to 50%	Over 50% to 80%	Over 80% to 120%	Over 120% to 140%	Over 140%
Honolulu	1992	247,349	N/A[a]	20%	19%	23%	10%	27%
	1997	272,234	8%	15%	21%	30%	7%	20%
	2003	292,003	5%	19%	22%	22%	7%	25%
	2006	303,149	14%	10%	20%	22%	9%	24%
	2011	310,882	19%	16%	25%	12%	7%	21%
	2016	317,459	15%	11%	22%	16%	15%	22%
Maui	1992	34,266	N/A[a]	20%	19%	24%	9%	28%
	1997	39,252	7%	11%	27%	24%	10%	21%
	2003	43,687	10%	17%	28%	18%	7%	21%
	2006	49,484	13%	11%	19%	21%	7%	28%
	2011	54,132	20%	19%	22%	9%	5%	25%
	2016	55,059	16%	14%	19%	14%	12%	25%
Hawai‘i	1992	39,789	N/A[a]	20%	18%	24%	10%	29%
	1997	46,271	3%	19%	21%	23%	10%	24%
	2003	54,644	5%	14%	28%	22%	6%	25%
	2006	61,213	14%	11%	18%	20%	5%	31%
	2011	67,096	21%	16%	19%	13%	6%	24%
	2016	66,989	19%	12%	21%	10%	9%	28%
Kaua‘i	1992	16,981	N/A[a]	21%	18%	21%	9%	30%
	1997	18,817	9%	18%	27%	25%	9%	12%
	2003	20,460	6%	23%	27%	20%	7%	18%
	2006	21,971	12%	11%	18%	21%	10%	28%
	2011	23,201	19%	18%	23%	13%	6%	22%
	2016	23,369	19%	19%	20%	7%	11%	23%
State	1992	338,385	N/A[a]	20%	19%	22%	11%	28%
	1997	376,574	7%	15%	22%	28%	7%	20%
	2003	410,794	9%	15%	20%	22%	8%	24%
	2006	435,818	14%	11%	20%	22%	8%	26%
	2011	455,311	20%	17%	24%	12%	7%	22%
	2016	462,876	16%	12%	21%	14%	13%	23%

Source: Housing Demand Survey, 1992, 1997, 2003, 2006, 2011, and 2016
Note: [a] HUD household income guidelines of 30% or less was not available in the Housing Demand Survey 1992.

Table A-4. Housing Unit Condition, Owned Units, 1992, 1997, 2003, 2006, 2011, and 2016

County	Year	Total Households	Owner Occupied			
			Excellent condition	Satisfactory condition	Fair condition	Poor condition
Honolulu	1992	247,349	47%	43%	9%	2%
	1997	272,234	31%	47%	18%	4%
	2003	292,003	42%	46%	11%	1%
	2006	303,149	39%	46%	12%	3%
	2011	310,882	40%	45%	12%	4%
	2016	317,459	N/A	N/A	N/A	N/A
Maui	1992	34,266	52%	38%	10%	1%
	1997	39,252	35%	48%	15%	3%
	2003	43,687	45%	42%	10%	3%
	2006	49,484	44%	43%	11%	2%
	2011	54,132	49%	37%	11%	2%
	2016	55,095	N/A	N/A	N/A	N/A
Hawai`i	1992	39,789	52%	41%	6%	1%
	1997	46,271	42%	42%	13%	4%
	2003	54,644	46%	44%	9%	2%
	2006	61,213	44%	44%	11%	1%
	2011	67,096	48%	38%	11%	3%
	2016	66,989	N/A	N/A	N/A	N/A
Kaua`i	1992	16,981	49%	42%	7%	2%
	1997	18,817	42%	42%	13%	3%
	2003	20,460	48%	42%	9%	2%
	2006	21,971	44%	43%	11%	2%
	2011	23,201	44%	39%	15%	2%
	2016	23,369	N/A	N/A	N/A	N/A
State	1992	338,385	49%	42%	8%	2%
	1997	376,574	34%	46%	17%	4%
	2003	410,794	43%	45%	10%	2%
	2006	435,818	41%	45%	12%	3%
	2011	455,311	43%	42%	12%	3%
	2016	462,876	N/A	N/A	N/A	N/A

Source: Housing Demand Survey, 1992, 1997, 2003, 2006, and 2011
Note: This question was not asked in the Housing Demand Survey 2016

Table A-5. Housing Unit Condition, Rented Units, 1992, 1997, 2003, 2006, 2011 and 2016

County	Year	Total Households	Renter Occupied			
			Excellent condition	Satisfactory condition	Fair condition	Poor condition
Honolulu	1992	247,349	23%	52%	20%	6%
	1997	272,234	21%	46%	27%	6%
	2003	292,003	22%	52%	22%	4%
	2006	303,149	24%	42%	25%	10%
	2011	310,882	31%	46%	19%	5%
	2016	317,459	N/A	N/A	N/A	N/A
Maui	1992	34,266	27%	43%	24%	6%
	1997	39,252	25%	48%	22%	5%
	2003	43,687	28%	47%	20%	6%
	2006	49,484	31%	40%	22%	7%
	2011	54,132	35%	43%	16%	6%
	2016	55,095	N/A	N/A	N/A	N/A
Hawai`i	1992	39,789	29%	46%	16%	9%
	1997	46,271	26%	45%	20%	10%
	2003	54,644	27%	46%	23%	5%
	2006	61,213	22%	48%	20%	10%
	2011	67,096	37%	42%	15%	7%
	2016	66,989	N/A	N/A	N/A	N/A
Kaua`i	1992	16,981	25%	55%	15%	5%
	1997	18,817	27%	44%	22%	7%
	2003	20,460	30%	47%	18%	5%
	2006	21,971	24%	46%	25%	6%
	2011	23,201	26%	42%	27%	5%
	2016	23,369	N/A	N/A	N/A	N/A
State	1992	338,385	24%	51%	20%	6%
	1997	376,574	22%	46%	26%	6%
	2003	410,794	24%	51%	21%	4%
	2006	435,818	24%	43%	24%	9%
	2011	455,311	32%	45%	19%	5%
	2016	462,876	N/A	N/A	N/A	N/A

Source: Housing Demand Survey, 1992, 1997, 2003, 2006, and 2011
Note: This question was not asked in the Housing Demand Survey 2016

Table A-6. Average Monthly Housing Cost, 1992, 1997, 2003, 2006, 2011 and 2016

County	Year	Total Households	Average Monthly Mortgage Payment			Average Monthly Rent	
			Total	Single-family	Multi-family	Total	2-bedroom apartment
Honolulu	1992	247,349	$821	$915	$832	$864	N/A
	1997	272,234	$1,430	$1,369	$1,335	$928	$923
	2003	292,003	$1,546	$1,650	$1,239	$1,014	$1,072
	2006	303,149	$1,142	$1,173	$1,029	$1,300	$1,393
	2011	310,882	$1,415	$1,393	$1,510	$1,502	$1,487
	2016	317,459	$2,140	$2,353	$1,753	$1,652	$1,688
Maui	1992	34,266	$776	$831	$719	$730	N/A
	1997	39,252	$1,210	$1,664	$789	$850	$1,138
	2003	43,687	$1,310	$1,346	$1,104	$979	$1,072
	2006	49,484	$1,461	$1,451	$1,458	$1,256	$1,253
	2011	54,132	$1,461	$1,468	$1,411	$1,280	$1,303
	2016	55,059	$2,045	$2,100	$1,729	$1,444	$1,429
Hawai‘i	1992	39,789	$651	$691	$579	$556	N/A
	1997	46,271	$954	$1,069	$840	$697	$644
	2003	54,644	$1,072	$1,078	$919	$859	$843
	2006	61,213	$1,057	$1,039	$1,407	$1,146	$1,152
	2011	67,096	$1,106	$1,102	$1,389	$1,121	$986
	2016	66,989	$1,357	$1,379	$1,106	$1,164	$1,153
Kaua‘i	1992	16,981	$726	$773	$612	$807	N/A
	1997	18,817	$1,151	$1,290	$881	$830	$860
	2003	20,460	$1,284	$1,306	$1,014	$983	$885
	2006	21,971	$1,165	$1,178	$974	$1,230	$1,271
	2011	23,201	$1,273	$1,254	$983	$1,311	$1,292
	2016	23,369	$1,824	$1,841	$1,682	$1,256	$1,354
State	1992	338,385	$800	$863	$813	$793	N/A
	1997	376,574	$1,319	$1,330	$1,286	$897	N/A
	2003	410,794	$1,433	$1,488	$1,213	$992	$1,037
	2006	435,818	$1,167	$1,183	$1,081	$1,274	$1,346
	2011	455,311	$1,355	$1,332	$1,495	$1,421	$1,398
	2016	462,876	$1,987	$2,081	$1,728	$1,554	$1,577

Source: Housing Demand Survey, 1992, 1997, 2003, 2006, 2011, and 2016

Table A-7. Mortgage Payments by Years in Unit, 1992, 1997, 2003, 2006, 2011, and 2016

County	Year	Total Households	Average Monthly Mortgage by Years in Unit			
			Less than 1 year	1 to 5 years	6 to 10 years	More than 10 years
Honolulu	1992	247,349	$886	$879	$656	$564
	1997	272,234	$1,431	$1,668	$1,697	$1,241
	2003	292,003	$1,616	$1,729	$1,689	$1,414
	2006	303,149	$2,865	$1,865	$1,445	$824
	2011	310,882	$2,488	$2,255	$2,007	$1,088
	2016	317,459	$2,850	$2,378	$2,580	$1,905
Maui	1992	34,266	$824	$781	$755	$609
	1997	39,252	$1,497	$1,519	$1,339	$986
	2003	43,687	$1,972	$1,448	$1,436	$1,091
	2006	49,484	$2,245	$2,037	$1,565	$1,072
	2011	54,132	$1,671	$1,962	$1,720	$1,202
	2016	55,059	$2,516	$2,301	$2,134	$1,898
Hawai‘i	1992	39,789	$752	$707	$455	$314
	1997	46,271	$1,030	$1,168	$1,122	$730
	2003	54,644	$1,455	$1,143	$1,174	$953
	2006	61,213	$1,700	$1,662	$987	$725
	2011	67,096	$1,591	$1,531	$1,403	$792
	2016	66,989	$1,985	$1,325	$1,384	$1,316
Kaua‘i	1992	16,981	$888	$722	$559	$552
	1997	18,817	$1,448	$1,304	$1,167	$968
	2003	20,460	$1,673	$1,490	$1,373	$1,089
	2006	21,971	$2,666	$1,634	$1,442	$824
	2011	23,201	$2,285	$2,039	$1,587	$1,026
	2016	23,369	$2,518	$2,022	$2,221	$1,619
State	1992	338,385	$867	$853	$634	$553
	1997	376,574	$1,387	$1,548	$1,501	$1,135
	2003	410,794	$1,636	$1,559	$1,577	$1,299
	2006	435,818	$2,468	$1,837	$1,378	$835
	2011	455,311	$2,157	$2,013	$1,805	$1,049
	2016	462,876	$2,547	$2,186	$2,294	$1,798

Source: Housing Demand Survey, 1992, 1997, 2003, 2006, 2011, and 2016

Table A-8. Household Composition, 1992, 1997, 2003, 2006, 2011, and 2016

County	Year	Total Households	Household Type					
			Single member	Married, no children	Parent(s) & children	Unrelated roommates	Other[a]	Undetermined
Honolulu	1992	247,349	11.9%	24.4%	26.3%	1.7%	32.0%	3.7%
	1997	272,234	14.1%	25.6%	27.3%	4.2%	27.2%	1.6%
	2003	292,003	22.0%	28.9%	21.2%	3.2%	22.9%	1.8%
	2006	303,149	24.1%	21.8%	20.9%	3.3%	29.3%	0.5%
	2011	310,882	22.2%	19.6%	14.1%	5.0%	37.6%	1.4%
	2016	317,459	23.5%	20.2%	13.8%	5.5%	36.5%	0.1%
Maui	1992	34,266	12.6%	24.4%	32.9%	1.6%	25.9%	2.3%
	1997	39,252	14.1%	25.0%	27.9%	5.4%	24.8%	2.7%
	2003	43,687	21.9%	29.6%	25.4%	3.2%	17.6%	2.3%
	2006	49,484	21.5%	24.8%	24.0%	3.6%	25.8%	0.3%
	2011	54,132	24.7%	22.2%	12.8%	7.0%	30.7%	2.6%
	2016	55,059	23.9%	22.2%	13.9%	6.7%	32.4%	0.9%
Hawai‘i	1992	39,789	9.6%	27.2%	32.3%	0.6%	26.0%	4.3%
	1997	46,271	14.8%	27.0%	28.4%	3.5%	24.3%	2.1%
	2003	54,644	22.3%	30.6%	24.4%	3.2%	18.1%	1.4%
	2006	61,213	19.5%	25.6%	22.6%	2.6%	28.7%	1.0%
	2011	67,096	24.6%	25.0%	13.5%	6.5%	29.0%	1.4%
	2016	66,989	26.5%	26.3%	13.5%	5.9%	27.5%	0.3%
Kaua‘i	1992	16,981	12.7%	26.1%	31.0%	0.5%	26.3%	3.5%
	1997	18,817	13.2%	27.1%	30.0%	1.7%	25.4%	2.5%
	2003	20,460	20.9%	26.9%	26.8%	3.2%	20.5%	1.7%
	2006	21,971	19.8%	25.0%	23.3%	3.3%	28.2%	0.4%
	2011	23,201	22.5%	23.6%	14.8%	4.4%	32.5%	2.2%
	2016	23,369	22.9%	25.3%	15.3%	5.7%	30.3%	0.5%
State	1992	338,385	11.7%	24.9%	27.9%	1.5%	30.3%	3.6%
	1997	376,574	14.2%	25.8%	27.6%	4.1%	26.5%	1.9%
	2003	410,794	22.0%	29.1%	22.3%	3.2%	21.6%	1.8%
	2006	435,818	22.9%	22.8%	21.6%	3.2%	28.8%	0.6%
	2011	455,311	22.9%	21.0%	13.9%	5.5%	35.2%	1.6%
	2016	462,876	23.9%	21.6%	13.8%	5.7%	34.4%	0.2%

Source: Housing Demand Survey, 1992, 1997, 2003, 2006, 2011, and 2016
Note: [a]Other household types include a mixture of related and unrelated individuals.

Table A-9. Household Crowding, 1992, 1997, 2003, 2006, 2011, and 2016

	Year	Total Households	Crowding Indicators		
			Crowded[a]	Doubled Up[b]	Crowded and/or Doubled Up[c]
Honolulu	1992	247,349	23.2%		32.0%
	1997	272,234	10.6%		27.2%
	2003	292,003	10.1%	10.0%	17.6%
	2006	303,149	8.1%	9.7%	15.2%
	2011	310,882	13.3%	13.8%	22.9%
	2016	317,459	11.4%	11.9%	21.0%
Maui	1992	34,266	26.8%		25.9%
	1997	39,252	10.4%		24.8%
	2003	43,687	11.0%	8.7%	17.3%
	2006	49,484	7.7%	9.6%	15.3%
	2011	54,132	10.7%	13.0%	19.2%
	2016	55,095	9.8%	14.1%	21.4%
Hawai'i	1992	39,789	18.7%		26.0%
	1997	46,271	7.9%		24.3%
	2003	54,644	7.0%	9.3%	14.4%
	2006	61,213	6.9%	11.2%	15.9%
	2011	67,096	8.4%	11.3%	17.2%
	2016	66,989	7.4%	11.1%	16.0%
Kaua'i	1992	16,981	17.4%		26.3%
	1997	18,817	9.1%		25.4%
	2003	20,460	6.0%	12.5%	16.1%
	2006	21,971	6.6%	11.9%	15.5%
	2011	23,201	10.5%	11.7%	18.1%
	2016	23,369	8.9%	11.5%	19.2%
State	1992	338,385	22.2%		30.3%
	1997	376,574	10.2%		26.5%
	2003	410,794	9.6%	10.0%	17.1%
	2006	435,818	7.8%	10.0%	15.3%
	2011	455,311	12.1%	13.2%	21.4%
	2016	462,876	10.5%	12.0%	20.2%

Source: Housing Demand Survey, 1992, 1997, 2003, 2006, 2011, and 2016.

[a] Based on more than 2 persons per bedroom.

[b] More than one family group in a single housing unit (See Glossary).

[C] Percent of households crowded, doubled up, or both. Before 2003, HHPS measured crowding and "crowded or doubled up". After 2003, HHPS measured crowding and doubled up and the combination of both.

Table A-10. Shelter-to-Income Ratios, 1992, 1997, 2003, 2006, 2011, and 2016

County	Year	Total Households	Monthly Shelter Payment as a Percent of Monthly Household Income				
			No Shelter Payment	Under 30 percent	30 to 40 percent	Over 40 percent	Not enough information
Honolulu	1992	247,349	55.7%		14.1%	20.2%	10.0%
	1997	272,234	55.1%		18.9%	18.4%	7.5%
	2003R	292,003	16.4%	36.3%	17.9%	14.4%	15.0%
	2006R	303,149	19.2%	35.7%	10.9%	22.0%	12.2%
	2011R	310,882	14.6%	35.7%	10.1%	30.6%	9.0%
	2016	317,459	21.3%	37.1%	11.4%	24.4%	5.9%
Maui	1992	34,266	59.3%		18.1%	15.8%	6.7%
	1997	39,252	47.9%		16.0%	19.8%	16.4%
	2003R	43,687	12.0%	40.6%	17.5%	16.2%	13.6%
	2006R	49,484	16.0%	33.1%	14.4%	27.1%	9.4%
	2011R	54,132	16.2%	35.5%	12.0%	29.2%	7.1%
	2016	55,059	15.0%	35.2%	12.4%	31.4%	6.0%
Hawai‘i	1992	39,789	70.2%		12.4%	11.5%	5.9%
	1997	46,271	51.8%		18.1%	20.4%	9.7%
	2003R	54,644	17.9%	38.7%	16.5%	14.4%	12.5%
	2006R	61,213	15.9%	38.2%	10.9%	23.0%	12.1%
	2011R	67,096	19.4%	34.1%	12.0%	26.8%	7.7%
	2016	66,989	27.0%	37.2%	10.3%	19.3%	6.2%
Kaua‘i	1992	16,981	60.3%		17.7%	13.7%	8.1%
	1997	18,817	44.9%		18.7%	24.7%	11.7%
	2003R	20,460	17.3%	38.9%	14.8%	16.1%	12.9%
	2006R	21,971	18.8%	38.7%	10.8%	21.6%	10.0%
	2011R	23,201	18.6%	35.0%	12.2%	25.5%	8.6%
	2016	23,369	20.8%	36.8%	10.8%	26.3%	5.2%
State	1992	338,385	58.0%		14.5%	18.4%	9.1%
	1997	376,574	53.5%		18.5%	19.1%	8.9%
	2003R	410,794	16.1%	37.2%	17.5%	14.7%	14.4%
	2006R	435,818	18.4%	35.9%	11.3%	22.7%	11.8%
	2011R	455,311	15.7%	35.4%	10.7%	29.6%	8.6%
	2016	462,876	21.4%	36.8%	11.3%	24.6%	5.9%

Source: Housing Demand Survey, 1992, 1997, 2003, 2006, 2011, and 2016
Note. Under 30 percent includes households with no shelter payment for 1992 and 1997.

Table A-11. Shelter-to-Income Ratios by Years in Unit, 1992, 1997, 2003, 2006, 2011, and 2016

County	Year	Total Households	Percent with shelter-to-income ratio of 30% or more					
			by Years in Unit				by Tenancy	
			Less than 1 year	1 to 5 years	6 to 10 years	More than 10 years	Rented or no cash	Owner occupied
Honolulu	1992	247,349	61.1%	43.7%	34.9%	12.7%	44.6%	23.0%
	1997	272,234	40.8%	43.2%	46.9%	35.1%	41.4%	39.2%
	2003	292,003	42.5%	49.6%	37.6%	24.9%	48.9%	28.0%
	2006	303,149	53.0%	43.1%	36.9%	22.1%	47.2%	22.7%
	2011	310,882	65.8%	55.7%	44.9%	25.9%	61.9%	24.5%
	2016	317,459	60.3%	48.8%	38.5%	21.7%	58.1%	23.2%
Maui	1992	34,266	47.3%	49.8%	30.6%	17.0%	43.8%	27.6%
	1997	39,252	41.4%	50.0%	47.3%	33.7%	38.6%	46.1%
	2003	43,687	52.2%	38.3%	26.5%	26.0%	40.5%	30.0%
	2006	49,484	66.3%	46.8%	44.8%	26.3%	54.6%	32.6%
	2011	54,132	60.2%	51.5%	40.6%	27.6%	52.7%	31.1%
	2016	55,059	65.5%	50.2%	48.4%	33.5%	66.3%	31.4%
Hawai'i	1992	39,789	51.5%	35.8%	18.5%	6.7%	37.8%	17.2%
	1997	46,271	49.6%	52.5%	42.6%	30.8%	52.0%	37.0%
	2003	54,644	42.4%	41.7%	31.2%	26.8%	49.0%	27.8%
	2006	61,213	60.8%	43.7%	27.5%	20.3%	48.3%	27.1%
	2011	67,096	66.4%	48.7%	38.4%	23.0%	57.3%	28.1%
	2016	66,989	38.7%	39.7%	33.3%	21.3%	61.9%	17.7%
Kaua'i	1992	16,981	46.3%	31.1%	18.5%	15.6%	36.9%	28.1%
	1997	18,817	61.2%	56.5%	41.4%	39.6%	53.4%	46.1%
	2003	20,460	43.2%	43.2%	31.4%	26.0%	44.4%	29.7%
	2006	21,971	51.6%	45.2%	37.1%	18.8%	47.7%	24.3%
	2011	23,201	65.8%	53.9%	42.9%	29.3%	56.0%	31.7%
	2016	23,369	64.5%	50.6%	39.7%	26.3%	58.9%	28.0%
State	1992	338,385	57.8%	43.3%	31.1%	12.6%	43.7%	23.0%
	1997	376,574	42.2%	45.6%	46.0%	34.7%	40.1%	40.1%
	2003	410,794	43.6%	46.2%	35.3%	25.3%	28.3%	28.3%
	2006	435,818	56.4%	43.8%	36.7%	22.1%	48.2%	24.6%
	2011	455,311	65.0%	53.9%	43.2%	25.8%	59.8%	26.3%
	2016	462,876	58.2%	47.8%	39.2%	23.2%	59.6%	23.5%

Source: Housing Demand Survey, 1992, 1997, 2003, 2006, 2011, and 2016

Table A-12. Intention to Move, 1992, 1997, 2003, 2006, 2011 and 2016

County	Year	Total Households	Intention to Move		Raw Demand-Total Will Move	When Household Will Move				
			Probably Will Not Move	Will Move to a New Unit		In 1 Year	In 2 Years	3 to 5 Years	More Than 5 Years	Not Sure When
Honolulu	1992	247,349	42.6%	57.4%	142,090	29.2%	21.5%	19.0%	10.2%	20.1%
	1997	272,234	44.8%	55.2%	150,194	23.5%	20.9%	16.2%	10.9%	28.5%
	2003	292,003	56.3%	43.7%	127,683	27.9%	20.5%	19.3%	10.3%	22.0%
	2006	303,149	61.2%	38.8%	117,597	24.5%	22.9%	15.5%	8.2%	29.0%
	2011	310,882	45.4%	54.6%	168,946	21.5%	21.4%	20.1%	15.6%	21.5%
	2016	317,459	40.0%	60.0%	190,377	19.8%	18.3%	20.0%	15.8%	26.1%
Maui	1992	34,266	56.8%	43.2%	14,793	28.6%	24.7%	17.1%	9.2%	20.4%
	1997	39,252	51.9%	48.1%	18,894	23.1%	17.2%	13.4%	18.2%	28.1%
	2003	43,687	51.9%	48.1%	18,205	22.1%	20.6%	18.6%	10.0%	28.7%
	2006	49,484	54.9%	45.1%	22,318	19.6%	26.9%	15.0%	14.0%	24.5%
	2011	54,132	52.9%	47.1%	25,282	24.8%	19.4%	17.6%	16.1%	22.2%
	2016	55,059	47.7%	52.3%	28,784	20.6%	19.9%	19.9%	17.1%	22.5%
Hawai`i	1992	39,789	55.6%	44.4%	17,685	28.8%	20.8%	17.8%	14.0%	18.6%
	1997	46,271	60.0%	40.0%	18,491	22.3%	18.1%	15.5%	15.9%	28.2%
	2003	54,644	55.6%	44.4%	21,252	21.4%	19.2%	15.9%	17.3%	26.2%
	2006	61,213	57.9%	42.1%	25,769	22.4%	19.3%	19.4%	11.2%	27.7%
	2011	67,096	58.4%	41.6%	28,223	20.9%	12.9%	24.9%	20.8%	20.6%
	2016	66,989	50.2%	49.8%	33,336	21.7%	17.9%	17.4%	18.9%	24.1%
Kaua`i	1992	16,981	56.8%	43.2%	7,337	32.8%	17.4%	21.4%	6.4%	22.0%
	1997	18,817	58.0%	42.0%	7,907	17.1%	13.9%	16.3%	15.3%	37.4%
	2003	20,460	63.5%	36.5%	7,468	22.1%	22.4%	15.6%	12.1%	27.9%
	2006	21,971	64.4%	35.6%	7,826	23.4%	17.5%	13.6%	17.1%	28.4%
	2011	23,201	57.2%	42.8%	9,628	30.3%	15.5%	15.1%	18.3%	20.8%
	2016	23,369	55.7%	44.3%	10,355	21.1%	21.6%	19.9%	19.9%	17.6%
State	1992	338,385	46.2%	53.8%	181,905	29.2%	21.5%	18.8%	10.4%	20.1%
	1997	376,574	48.1%	51.9%	195,486	23.1%	20.0%	15.9%	12.3%	28.8%
	2003	410,794	57.5%	42.5%	174,608	26.3%	20.5%	18.6%	11.2%	23.5%
	2006	435,818	60.2%	39.8%	173,510	23.5%	22.6%	15.9%	9.8%	28.2%
	2011	455,311	49.2%	50.8%	232,079	22.1%	19.8%	20.2%	16.4%	21.4%
	2016	462,876	43.2%	56.8%	262,852	20.1%	18.6%	19.6%	16.5%	25.1%

Source. Housing Demand Survey, 1992, 1997, 2003, 2006, 2011, and 2016
Base for intention to Move is all respondent households
Base for When Households Will Move is 262,852 households who provided a time frame or said not sure (excludes probably never move)

Table A-13. Preferred Location for Next Move, 1992, 1997, 2003, 2006, 2011 and 2016

County	Year	Total Households	Final Demand - Total Will Move[a]	Preferred Location for Next Move			
				Same Island	Different Island	Not Sure	Out-of-State
Honolulu	1992	247,349	142,090	62.2%	5.3%	6.3%	26.1%
	1997	272,234	150,194	52.5%	4.3%	11.0%	32.2%
	2003	292,003	127,683	65.7%	2.8%	11.6%	19.8%
	2006	303,149	117,597	66.1%	4.5%	8.9%	20.5%
	2011	310,882	132,696	63.4%	4.3%	5.6%	26.6%
	2016	317,459	139,823	59.3%	3.4%	14.2%	23.1%
Maui	1992	34,266	14,793	71.7%	13.3%	5.7%	9.4%
	1997	39,252	18,894	72.5%	2.7%	13.0%	11.8%
	2003	43,687	18,205	68.3%	6.9%	10.8%	14.0%
	2006	49,484	22,318	71.5%	9.5%	6.7%	12.3%
	2011	54,132	19,774	58.5%	5.4%	24.9%	11.2%
	2016	55,059	21,877	65.9%	6.6%	8.9%	18.7%
Hawai'i	1992	39,789	17,685	80.9%	4.2%	4.4%	10.6%
	1997	46,271	18,491	74.3%	4.0%	7.7%	14.0%
	2003	54,644	21,252	73.4%	5.4%	12.1%	9.1%
	2006	61,213	25,769	73.0%	6.0%	9.4%	11.5%
	2011	67,096	22,327	61.9%	7.8%	8.3%	22.1%
	2016	66,989	24,746	61.4%	7.2%	13.9%	17.5%
Kaua'i	1992	16,981	7,337	76.7%	6.2%	6.0%	11.1%
	1997	18,817	7,907	69.8%	5.7%	10.1%	14.3%
	2003	20,460	7,468	71.8%	9.7%	9.0%	9.5%
	2006	21,971	7,826	64.8%	7.4%	9.1%	18.7%
	2011	23,201	7,586	62.8%	7.0%	11.1%	19.2%
	2016	23,369	8,211	65.7%	5.2%	7.6%	21.5%
State	1992	338,385	181,904	65.4%	5.9%	6.1%	22.6%
	1997	376,574	195,485	57.2%	4.2%	10.9%	27.8%
	2003	410,794	174,607	67.2%	3.9%	11.5%	17.5%
	2006	435,818	173,511	67.8%	5.5%	8.7%	18.0%
	2011	455,311	182,384	62.6%	5.0%	8.7%	23.8%
	2016	462,876	194,656	60.5%	4.2%	13.4%	21.9%

Source. Housing Demand Survey, 1992, 1997, 2003, 2006, 2011, and 2016

[a] The total number of Final Demand households differs from the Raw Demand number in Table A-12 because households who didn't know or refused to report when they might move are excluded from the final demand counts.

Table A-14. Tenancy Preference of Current Owners & Renters, 1992, 1997, 2003, 2006, 2011, and 2016

County	Year	Effective Demand-Total Will Move[a]	Current Owners			Current Renters		
			Total	Planned Next Tenancy		Total[c]	Planned Next Tenancy	
				Buy	Rent[b]		Buy	Rent[b]
Honolulu	1992	127,810	33,243	89.7%	10.3%	94,567	32.7%	67.3%
	1997	128,791	44,335	89.1%	10.9%	84,456	44.0%	56.0%
	2003	113,638	41,616	85.5%	14.5%	72,022	55.4%	44.6%
	2006	100,545	30,973	86.8%	13.2%	69,572	55.4%	44.6%
	2011	97,429	32,688	74.2%	25.8%	64,621	25.1%	68.3%
	2016	136,933	58,933	75.2%	24.8%	76,476	29.7%	70.3%
Maui	1992	13,284	4,600	87.6%	12.4%	8,684	49.5%	50.5%
	1997	16,239	6,450	84.8%	15.2%	9,789	46.8%	53.2%
	2003	15,593	5,657	95.1%	4.9%	9,936	52.4%	47.6%
	2006	19,584	7,083	92.0%	8.0%	12,501	52.3%	47.7%
	2011	16,937	5,370	72.0%	28.0%	11,396	29.4%	70.6%
	2016	19,434	7,431	73.5%	26.5%	11,877	35.4%	64.6%
Hawai`i	1992	16,004	7,132	93.7%	6.3%	8,872	64.9%	35.1%
	1997	15,884	7,694	87.5%	12.5%	8,190	49.6%	50.4%
	2003	18,471	8,679	90.0%	10.0%	9,792	57.1%	42.9%
	2006	22,200	10,264	93.8%	6.2%	11,936	54.7%	45.3%
	2011	17,412	6,838	70.1%	29.9%	10,540	37.2%	62.8%
	2016	24,570	12,856	67.4%	32.6%	11,568	37.3%	62.7%
Kaua`i	1992	6,530	2,264	95.9%	4.1%	4,266	54.9%	45.1%
	1997	6,428	2,054	92.9%	7.1%	4,374	48.2%	51.8%
	2003	6,426	2,737	90.5%	9.5%	3,689	51.6%	48.4%
	2006	6,715	2,614	87.6%	12.4%	4,101	39.3%	60.7%
	2011	6,339	1,700	61.3%	38.7%	4,521	20.9%	79.1%
	2016	6,750	2,670	70.1%	29.9%	4,077	35.2%	64.8%
State	1992	163,664	47,239	90.4%	9.6%	116,425	37.2%	62.8%
	1997	167,343	60,533	88.6%	11.4%	106,810	44.9%	55.1%
	2003	154,129	58,689	87.6%	12.4%	95,440	55.1%	44.9%
	2006	149,044	50,934	89.0%	11.0%	98,110	54.3%	45.7%
	2011	138,116	46,595	72.9%	27.1%	91,079	26.8%	73.2%
	2016	187,687	81,889	73.8%	26.2%	103,997	31.4%	68.6%

Source. Housing Demand Survey, 1992, 1997, 2003, 2006, 2011, and 2016
Base for Effective Demand is households who plan to move, have some idea when they will move, and plan to stay in the State of Hawai'i when they move
Base for Current Owners is 46,494 households included in 138,116 Total Will Move households that own their current residence.
Base for Current Renters is 91,088 households included in 138,116 Total Will Move households that currently rent their unit or occupy without paying cash rent.

[a] The total number of mover households differs from Table A-12 because those who plan to move out of state are excluded from effective demand counts. Total Current Owners and Total Current Renters do not sum to Total Will Move because those households that refused to provide their current tenancy were excluded from the analysis.

[b] Includes households that plan to rent or are not sure about their next tenancy.

[c] Includes households that currently rent or occupy without payment of cash rent.

Table A-15. Preferred Unit Type, Buyers, 1992, 1997, 2003, 2006, 2011, and 2016

	County	Year	Total Will Move[a]	Preferred Unit Type					
				Single Family[b]	Townhouse[c]	Condo[d]	Apartment[e]	Other[f]	No Preference
Plan to Buy	Honolulu	1992	60,724	73.9%	14.3%	8.7%	1.1%	0.0%	2.0%
		1997	76,663	78.7%	4.2%	12.7%	0.2%	1.3%	2.9%
		2003	75,482	78.6%	5.1%	6.8%	1.8%	1.3%	6.4%
		2006	65,495	69.7%	7.5%	12.7%	1.0%	1.3%	8.6%
		2011	40,483	61.0%	7.2%	26.7%	0.0%	2.0%	3.1%
		2016	64,168	57.9%	6.2%	21.9%	6.1%	0.2%	7.6%
	Maui	1992	8,328	89.7%	2.5%	5.3%	0.6%	1.9%	0.0%
		1997	10,051	87.1%	2.2%	8.0%	0.8%	0.0%	1.9%
		2003	10,586	85.0%	1.2%	7.4%	1.6%	0.1%	4.7%
		2006	12,539	85.6%	2.7%	7.6%	0.0%	0.4%	3.7%
		2011	7,156	83.0%	5.7%	9.7%	0.0%	0.4%	1.2%
		2016	9,172	80.1%	3.6%	9.7%	1.2%	1.9%	3.3%
	Hawai‘i	1992	12,441	91.8%	3.3%	2.2%	1.0%	0.8%	0.9%
		1997	10,794	91.7%	1.9%	4.8%	0.2%	0.2%	1.1%
		2003	13,402	91.4%	1.8%	2.1%	0.5%	0.2%	4.0%
		2006	15,940	84.2%	4.4%	4.9%	0.0%	2.1%	4.4%
		2011	8,711	87.3%	4.0%	5.9%	0.0%	1.0%	1.8%
		2016	11,407	80.3%	0.3%	8.0%	0.3%	1.1%	10.0%
	Kaua‘i	1992	4,513	95.1%	1.1%	2.9%	0.0%	0.0%	0.9%
		1997	4,016	91.0%	4.1%	4.9%	0.0%	0.0%	0.0%
		2003	4,381	86.9%	3.8%	5.8%	0.0%	1.7%	1.8%
		2006	3,879	79.0%	5.3%	8.2%	0.0%	1.3%	6.1%
		2011	2,046	81.8%	4.4%	8.3%	0.0%	2.8%	2.6%
		2016	3,040	86.7%	1.7%	7.5%	3.4%	0.7%	
	State	1992	86,006	79.2%	10.9%	7.1%	1.0%	0.1%	1.7%
		1997	101,524	81.4%	3.8%	11.0%	0.3%	1.0%	2.5%
		2003	103,851	81.3%	4.3%	6.2%	1.5%	1.0%	5.7%
		2006	97,853	74.5%	6.3%	10.6%	1.0%	1.3%	7.2%
		2011	58,395	68.3%	6.5%	20.9%	0.0%	1.7%	2.6%
		2016	87,787	64.1%	5.0%	18.3%	4.8%	0.5%	7.2%

Source. Housing Demand Survey, 1992, 1997, 2003, 2006, 2011, and 2016

[a] Total Will Move is households that plan to move, have some idea when they will move, plan to stay in the State when they move, and want to buy their next unit rather than rent.

Note. Sum of county figures may not equal the State total due to rounding.

[b] Single Family is a single-family detached dwelling unit.

[c] Townhouse is a side by side housing unit that does not meet the definition of single-family.

[d] Condo is an apartment building with five units or more in which each owner owns a unit and holds a joint ownership in common areas with other owners in the building.

[e] Apartment contains residential suites in which each individual unit is leased to different occupants.

[f] Other includes type of units that are not Single Family, Townhouse, Condo, and apartment

Table A-16. Preferred Unit Type, Renters, 1992, 1997, 2003, 2006, 2011, and 2016

	County	Year	Total Will Move[a]	Preferred Unit Type					
				Single Family[b]	Townhouse[c]	Condo[d]	Apartment[e]	Other[f]	No Preference
Plan to Rent	Honolulu	1992	67,086	64.3%	3.9%	12.5%	13.6%	0.6%	5.1%
		1997	52,128	50.8%	8.3%	11.4%	19.3%	1.1%	9.1%
		2003	38,156	56.0%	9.1%	4.1%	21.1%	2.9%	6.8%
		2006	40,585	41.3%	10.7%	8.3%	28.8%	2.8%	8.2%
		2011	46,396	34.5%	4.3%	13.8%	44.2%	2.0%	1.2%
		2016	67,065	26.3%	4.7%	12.4%	30.9%	0.9%	24.8%
	Maui	1992	4,956	82.1%	3.8%	6.3%	4.1%	3.7%	0.0%
		1997	6,188	60.3%	3.9%	14.0%	17.6%	2.0%	2.2%
		2003	5,007	77.9%	6.7%	4.7%	7.2%	1.8%	1.7%
		2006	7,265	65.1%	0.8%	11.4%	14.1%	0.5%	8.0%
		2011	7,751	57.3%	7.8%	5.0%	14.8%	5.4%	9.7%
		2016	9,178	52.4%	3.3%	6.8%	18.1%	5.1%	14.3%
	Hawai'i	1992	3,563	80.1%	5.4%	4.7%	4.7%	0.0%	5.1%
		1997	5,090	65.3%	4.1%	4.7%	16.4%	3.4%	6.1%
		2003	5,069	69.9%	1.3%	5.0%	18.1%	3.4%	2.3%
		2006	7,659	61.6%	4.5%	7.7%	15.8%	5.4%	5.0%
		2011	6,294	74.1%	4.8%	2.8%	11.7%	1.8%	4.8%
		2016	10,410	48.8%	0.9%	5.0%	16.6%	6.8%	21.8%
	Kaua'i	1992	2,017	84.4%	3.6%	8.1%	0.8%	3.2%	0.0%
		1997	2,412	79.3%	2.3%	1.1%	5.3%	2.3%	9.7%
		2003	2,045	77.3%	0.0%	1.7%	12.9%	0.0%	8.1%
		2006	3,177	64.4%	2.0%	9.8%	10.9%	5.7%	7.1%
		2011	3,525	66.5%	1.8%	11.9%	10.6%	3.9%	5.3%
		2016	3,179	65.1%	1.5%	4.4%	15.6%	0.9%	12.4%
	State	1992	77,622	66.7%	4.0%	11.6%	12.3%	0.8%	4.6%
		1997	65,818	53.9%	7.3%	10.8%	18.4%	1.4%	8.2%
		2003	50,277	60.4%	7.7%	10.8%	19.1%	2.7%	5.9%
		2006	58,686	48.1%	8.2%	10.8%	24.3%	3.0%	7.7%
		2011	63,697	42.9%	4.6%	11.6%	35.6%	2.5%	2.8%
		2016	89,832	33.0%	4.0%	10.7%	27.4%	2.0%	23.0%

Source: Housing Demand Survey, 1992, 1997, 2003, 2006, 2011, and 2016

[a] Total Will Move is households that plan to move, have some idea when they will move, plan to stay in the State when they move, and want to buy their next unit rather than rent.

Note. Sum of county figures may not equal the State total due to rounding.

[b] Single Family is a single-family detached dwelling unit.

[c] Townhouse is a side by side housing unit that does not meet the definition of single-family.

[d] Condo is an apartment building with five units or more in which each owner owns a unit and holds a joint ownership in common areas with other owners in the building.

[e] Apartment contains residential suites in which each individual unit is leased to different occupants.

[f] Other includes type of units that are not Single Family, Townhouse, Condo, and apartment.

Table A-17. Preferred Number of Bedrooms, Buyers, 1992, 1997, 2003, 2006, 2011, and 2016

	County	Year	Total Will Move[a]	Preferred Number of Bedrooms				
				Studio or One	Two	Three	Four or More	No Preference
Plan to Buy	Honolulu	1992	60,724	2.9%	30.5%	43.3%	23.3%	0.0%
		1997	76,663	1.4%	17.6%	49.1%	31.0%	0.8%
		2003	75,482	3.9%	22.3%	46.7%	25.5%	1.6%
		2006	65,495	0.1%	15.1%	41.6%	39.0%	4.2%
		2011	40,483	4.5%	23.6%	37.8%	34.1%	0.0%
		2016	64,168	3.0%	33.4%	41.0%	22.5%	0.1%
	Maui	1992	8,328	0.4%	27.5%	56.9%	15.2%	0.0%
		1997	10,051	6.4%	19.7%	44.5%	28.1%	1.2%
		2003	10,586	4.1%	21.8%	37.7%	36.0%	0.4%
		2006	12,539	1.7%	19.9%	46.0%	31.7%	0.7%
		2011	7,156	1.1%	20.2%	49.1%	29.3%	0.4%
		2016	9,172	1.3%	18.1%	56.1%	23.6%	0.9%
	Hawai'i	1992	12,441	1.1%	25.4%	55.9%	17.3%	0.3%
		1997	10,794	6.2%	22.7%	40.3%	29.0%	1.7%
		2003	13,402	4.0%	18.4%	45.9%	31.7%	0.0%
		2006	15,940	3.1%	17.1%	41.2%	35.4%	3.3%
		2011	8,711	9.5%	29.7%	34.5%	25.3%	1.1%
		2016	11,407	1.3%	22.8%	61.6%	14.3%	0.0%
	Kaua'i	1992	4,513	0.7%	29.3%	48.3%	21.7%	0.0%
		1997	4,016	1.6%	21.9%	51.6%	24.9%	0.0%
		2003	4,381	5.0%	19.5%	37.6%	37.5%	0.4%
		2006	3,879	0.8%	18.5%	46.3%	34.1%	0.3%
		2011	2,046	1.2%	16.5%	49.1%	33.2%	0.0%
		2016	3,040	5.1%	20.5%	53.7%	20.7%	0.0%
	State	1992	86,006	2.3%	29.4%	46.7%	21.6%	0.1%
		1997	101,524	2.5%	18.5%	47.8%	30.3%	0.9%
		2003	103,851	4.0%	21.6%	45.2%	28.0%	1.2%
		2006	97,853	0.8%	16.2%	42.3%	37.3%	3.5%
		2011	58,395	4.7%	23.8%	39.1%	32.1%	0.2%
		2016	87,787	2.7%	30.0%	45.7%	21.5%	0.1%

Source: Housing Demand Survey, 1992, 1997, 2003, 2006, 2011, and 2016

Table A-18. Preferred Number of Bedrooms, Renters, 1992, 1997, 2003, 2006, 2011, and 2016

	County	Year	Total Will Move[a]	Preferred Number of Bedrooms				
				Studio or One	Two	Three	Four or More	No Preference
Plan to Rent	Honolulu	1992	67,086	15.2%	40.0%	35.3%	9.5%	0.0%
		1997	52,128	7.3%	40.2%	32.4%	19.7%	0.4%
		2003	38,156	17.7%	40.6%	28.0%	12.4%	1.3%
		2006	40,585	11.8%	35.1%	33.4%	16.3%	3.5%
		2011	46,396	21.2%	42.8%	29.9%	5.7%	0.4%
		2016	67,065	17.4%	35.9%	34.9%	11.4%	0.4%
	Maui	1992	4,956	6.4%	41.0%	49.0%	1.0%	2.6%
		1997	6,188	17.9%	34.3%	34.8%	12.7%	0.2%
		2003	5,007	9.1%	37.4%	34.0%	18.1%	1.4%
		2006	7,265	7.5%	43.7%	35.9%	11.9%	1.0%
		2011	7,751	11.6%	47.3%	34.8%	6.3%	0.0%
		2016	9,178	11.2%	41.9%	36.9%	8.9%	1.2%
	Hawai'i	1992	3,563	5.1%	43.9%	38.7%	12.3%	0.0%
		1997	5,090	10.7%	31.7%	40.1%	16.8%	0.6%
		2003	5,069	18.0%	35.9%	37.5%	8.6%	0.0%
		2006	7,659	9.3%	31.6%	41.2%	16.6%	1.3%
		2011	6,294	7.6%	37.6%	34.7%	20.1%	0.0%
		2016	10,410	13.3%	37.5%	35.0%	14.3%	0.0%
	Kaua'i	1992	2,017	0.8%	38.1%	47.8%	13.3%	0.0%
		1997	2,412	4.6%	14.7%	63.8%	14.3%	2.6%
		2003	2,045	17.8%	23.7%	44.3%	11.7%	2.5%
		2006	3,177	7.3%	33.3%	41.7%	17.1%	0.5%
		2011	3,525	12.9%	44.6%	31.9%	8.6%	2.1%
		2016	3,179	14.5%	34.7%	39.8%	10.1%	0.9%
	State	1992	77,622	13.8%	40.2%	36.6%	9.2%	0.2%
		1997	65,818	8.5%	38.0%	34.4%	18.6%	0.5%
		2003	50,277	17.7%	40.6%	28.0%	12.4%	1.3%
		2006	58,686	10.7%	35.6%	35.1%	15.8%	2.7%
		2011	63,697	18.3%	42.9%	31.0%	7.4%	0.4%
		2016	89,832	16.2%	36.7%	35.3%	11.4%	0.4%

Source: Housing Demand Survey, 1992, 1997, 2003, 2006, 2011, and 2016

Table A-19. Affordable Housing Cost for New Units, Buyers, 1992, 1997, 2003, 2006, 2011, and 2016

	County	Year	Total Will Move[b]	Affordable Monthly Housing Cost[a]								
				Less than $200	$200 to $499	$500 to $799	$800 to $1,099	$1,100 to $1,399	$1,400 to $1,699	$1,700 to $1,999	$2,000 to $3,000	More than $3,000
Plan to Buy	Honolulu	1992	60,724	0.9%	1.1%	14.7%	29.9%	10.7%	22.0%	7.7%	5.9%	7.2%
		1997	76,663	0.0%	0.6%	9.3%	21.7%	18.4%	20.7%	11.6%	14.2%	3.4%
		2003	75,482	2.4%	1.3%	4.5%	14.1%	15.5%	17.3%	19.4%	19.1%	6.5%
		2006	65,495	1.8%	3.9%	6.7%	9.3%	9.2%	12.0%	6.0%	21.5%	13.3%
		2011	40,483	0.1%	0.8%	3.1%	7.0%	9.0%	4.3%	8.8%	27.4%	39.5%
		2016	64,168	1.5%	2.5%	5.1%	9.8%	13.5%	14.9%	31.5%	13.0%	8.2%
	Maui	1992	8,328	3.1%	5.5%	36.5%	23.6%	12.7%	8.4%	4.7%	4.0%	1.5%
		1997	10,051	1.1%	6.2%	20.5%	30.8%	13.5%	14.6%	5.4%	6.3%	1.6%
		2003	10,586	1.8%	5.9%	11.9%	26.8%	13.4%	12.7%	9.6%	12.1%	5.8%
		2006	12,539	2.0%	2.5%	4.3%	7.9%	9.3%	13.8%	8.7%	28.8%	12.4%
		2011	7,156	0.0%	0.2%	0.6%	7.7%	5.8%	19.1%	5.3%	32.7%	28.8%
		2016	9,172	1.6%	3.0%	5.2%	9.7%	17.9%	8.3%	31.5%	14.0%	8.8%
	Hawai`i	1992	12,441	0.9%	3.4%	17.6%	31.0%	22.8%	11.3%	4.9%	5.0%	3.2%
		1997	10,794	0.9%	3.1%	9.6%	25.0%	12.6%	26.0%	9.6%	10.7%	2.5%
		2003	13,402	1.3%	1.7%	7.2%	16.9%	15.2%	15.6%	20.5%	13.8%	7.9%
		2006	15,940	1.4%	3.2%	6.3%	17.8%	8.2%	12.8%	2.3%	18.6%	10.7%
		2011	8,711	1.7%	1.6%	6.8%	10.5%	11.2%	18.3%	6.0%	22.2%	21.6%
		2016	11,407	5.4%	13.9%	9.1%	17.2%	16.7%	7.5%	21.7%	5.2%	3.2%
	Kaua`i	1992	4,513	0.0%	1.6%	14.5%	31.3%	23.6%	14.7%	8.5%	4.6%	1.2%
		1997	4,016	1.0%	4.5%	13.1%	28.0%	17.2%	16.6%	9.6%	7.5%	2.4%
		2003	4,381	1.5%	1.2%	5.7%	21.3%	15.8%	22.3%	14.4%	12.6%	5.2%
		2006	3,879	1.4%	2.4%	3.6%	12.9%	12.4%	12.9%	5.4%	20.1%	13.5%
		2011	2,046	2.3%	6.3%	2.1%	11.7%	4.8%	14.7%	9.4%	24.0%	24.8%
		2016	3,040	4.9%	3.6%	9.3%	11.6%	14.5%	10.0%	34.6%	4.6%	6.9%
	State	1992	86,006	1.0%	1.9%	17.2%	29.5%	13.4%	18.7%	7.0%	5.5%	5.7%
		1997	101,524	0.3%	1.6%	10.6%	23.2%	17.3%	20.5%	10.7%	12.8%	3.1%
		2003	103,851	2.1%	1.8%	5.6%	16.0%	15.3%	16.8%	18.3%	17.4%	6.5%
		2006	97,853	1.8%	3.5%	6.2%	10.5%	9.2%	12.4%	5.8%	21.9%	12.8%
		2011	58,395	0.4%	1.0%	3.3%	7.8%	8.8%	8.7%	7.9%	27.1%	34.9%
		2016	87,787	2.1%	4.1%	5.8%	10.9%	14.4%	13.0%	30.3%	11.7%	7.6%

Source: Housing Demand Survey, 1992, 1997, 2003, 2006, 2011, and 2016

[a] Based on self-report from respondents regarding the level of monthly payment they would be able to afford.

Table A-20. Affordable Housing Cost for New Units, Renters, 1992, 1997, 2003, 2006, 2011, and 2016

	County	Year	Total Will Move[b]	Affordable Monthly Housing Cost[a]								
				Less than $200	$200 to $499	$500 to $799	$800 to $1,099	$1,100 to $1,399	$1,400 to $1,699	$1,700 to $1,999	$2,000 to $3,000	More than $3,000
Plan to Rent	Honolulu	1992	67,086	1.5%	2.8%	29.6%	35.1%	16.3%	9.6%	2.8%	2.3%	0.0%
		1997	52,128	2.0%	7.5%	26.1%	31.6%	16.7%	10.6%	3.1%	2.4%	0.0%
		2003	38,156	4.4%	10.2%	19.0%	24.9%	11.4%	11.4%	10.3%	5.2%	3.2%
		2006	40,585	0.0%	7.8%	13.6%	21.1%	13.3%	9.5%	8.8%	6.7%	5.0%
		2011	46,396	0.0%	2.2%	14.6%	22.5%	18.7%	12.2%	6.6%	18.5%	4.7%
		2016	67,065	3.3%	5.0%	8.7%	21.9%	12.2%	13.2%	8.9%	20.2%	6.7%
	Maui	1992	4,956	0.9%	7.6%	53.2%	29.2%	6.8%	2.2%	0.2%	0.0%	0.0%
		1997	6,188	4.6%	18.7%	41.7%	21.8%	5.1%	4.5%	1.8%	1.9%	0.0%
		2003	5,007	8.0%	11.0%	38.6%	22.2%	9.0%	8.0%	0.0%	1.7%	1.5%
		2006	7,265	0.0%	10.2%	12.9%	19.9%	12.5%	17.3%	5.2%	9.1%	3.6%
		2011	7,751	3.1%	5.2%	8.1%	30.8%	14.3%	18.9%	8.6%	7.2%	3.9%
		2016	9,178	4.3%	4.6%	13.7%	16.0%	17.3%	17.7%	6.3%	16.9%	3.3%
	Hawaii	1992	3,563	0.1%	6.6%	23.8%	32.4%	25.2%	9.7%	1.0%	1.0%	0.0%
		1997	5,090	6.0%	15.5%	26.5%	31.6%	15.3%	2.9%	0.6%	1.7%	0.0%
		2003	5,069	7.8%	5.3%	17.7%	33.2%	10.0%	11.2%	3.8%	11.0%	0.0%
		2006	7,659	0.0%	18.3%	16.5%	19.1%	10.7%	9.9%	5.8%	8.6%	1.6%
		2011	6,294	4.8%	10.5%	21.0%	22.9%	8.1%	8.8%	12.5%	7.6%	3.8%
		2016	10,410	12.3%	8.5%	22.1%	24.4%	5.4%	8.1%	6.0%	10.3%	2.8%
	Kauai	1992	2,017	1.0%	8.2%	30.3%	21.4%	22.2%	17.0%	0.0%	0.0%	0.0%
		1997	2,412	6.7%	16.2%	43.0%	24.3%	4.4%	3.7%	1.8%	0.0%	0.0%
		2003	2,045	4.2%	2.2%	13.8%	34.9%	15.7%	15.0%	2.5%	11.7%	0.0%
		2006	3,177	0.0%	9.1%	5.2%	17.7%	15.3%	25.0%	4.5%	7.1%	4.9%
		2011	3,525	3.4%	5.3%	8.1%	14.9%	15.7%	16.7%	7.1%	25.9%	2.9%
		2016	3,179	6.6%	2.4%	10.9%	20.9%	12.2%	17.6%	9.2%	11.3%	8.9%
	State	1992	77,622	1.4%	3.4%	30.8%	34.2%	16.3%	9.3%	2.5%	2.0%	0.0%
		1997	65,818	2.7%	9.5%	28.2%	30.4%	15.0%	9.2%	2.7%	2.2%	0.0%
		2003	50,277	5.1%	9.5%	20.6%	25.9%	11.2%	11.2%	8.3%	5.7%	2.6%
		2006	58,686	0.0%	9.5%	13.4%	20.5%	13.0%	11.4%	7.8%	7.2%	4.4%
		2011	63,697	1.3%	3.8%	14.1%	23.2%	16.6%	13.0%	7.6%	16.1%	4.3%
		2016	89,832	4.6%	5.3%	10.9%	21.4%	12.0%	13.4%	8.3%	18.3%	5.9%

Source: Housing Demand Survey, 1992, 1997, 2003, 2006, 2011, and 2016

[a] Based on self-report from respondents regarding the level of monthly payment they would be able to afford.

Table A-21. Preferred Location of New Housing Unit, 2016

Preferred Next Location	County of Residence									
	Honolulu		Maui		Hawaii		Kauai		State	
	Count	Pct.	Count	Pct.	Count	Pct.	Count	Pct.	Count	Pct.
HONOLULU										
PUC	38,128	44.4%	379	2.4%	856	5.2%	125	2.7%	39,488	32.2%
Central O'ahu	16,372	19.1%	6	0.0%			36	0.8%	16,414	13.4%
East Honolulu	7,974	9.3%	50	0.3%	223	1.4%			8,248	6.7%
Leeward O'ahu	10,635	12.4%	29	0.2%	193	1.2%	29	0.6%	10,886	8.9%
Windward O'ahu	8,778	10.2%	104	0.7%	52	0.3%	14	0.3%	8,947	7.3%
O'ahu , any	266	0.3%	86	0.5%	25	0.2%	64	1.4%	441	0.4%
HAWAI'I										
South Kona-Ka'ū	523	0.6%	78	0.5%	616	3.8%	89	1.9%	1,306	1.1%
Puna	88	0.1%	44	0.3%	1,141	7.0%	4	0.1%	1,276	1.0%
North & South Hilo	856	1.0%	107	0.7%	5,806	35.5%	31	0.7%	6,800	5.5%
North Hawai'i	376	0.4%	31	0.2%	1,966	12.0%	60	1.3%	2,431	2.0%
North Kona	662	0.8%	87	0.6%	3,429	21.0%	11	0.2%	4,188	3.4%
Waimea (Hawai'i Island)		0.0%		0.0%	1,064	6.5%		0.0%		0.0%
Hawai'i Island, any					252	1.5%			252	0.2%
MAUI										
Hana	550	0.6%	233	1.5%	17	0.1%	784	16.7%	1,583	1.3%
Makawao-Pukalani-Kula	10	0.0%	3,747	23.8%	89	0.5%	7	0.1%	3,852	3.1%
Wailuku-Kahului	256	0.3%	4,052	25.7%	18	0.1%			4,325	3.5%
Paia-Haiku			1,061	6.7%			6	0.1%	1,067	0.9%
Kihei-Makena	91	0.1%	2,973	18.9%	112	0.7%	240	5.1%	3,415	2.8%
West Maui			1,583	10.1%	157	1.0%	246	5.3%	1,986	1.6%
Molokai			256	1.6%			10	0.2%	266	0.2%
Lanai			156	1.0%					156	0.1%
Maui, any	195	0.2%	631	4.0%	139	0.9%	14	0.3%	979	0.8%
KAUA'I										
Waimea (Kaua'i)							225	4.8%	1,289	1.1%
Koloa							536	11.5%	536	0.4%
Lihue			17	0.1%			844	18.0%	861	0.7%
Kawaihau	122	0.1%	39	0.2%	108	0.7%	595	12.7%	864	0.7%
Hanalei					79	0.5%	266	5.7%	344	0.3%
Kaua'i, any			4	0.0%	8	0.0%	447	9.5%	459	0.4%
Total	*85,880*	*83.4%*	*15,751*	*89.7%*	*16,349*	*80.9%*	*4,681*	*72.6%*	*122,663*	*83.4%*
Total No Preference	17,066	16.6%	1,818	10.3%	3,853	19.1%	1,764	27.4%	24,500	16.6%
Total Effective Demand Move	102,946	100.0%	17,569	100.0%	20,202	100.0%	6,445	100.0%	147,163	100.0%

Source: Housing Demand Survey, 2016

APPENDIX B: COUNTY AND DISTRICTS TABLES

The tables presented in Appendix B, referred to in prior iterations of the HHPS as the “B Tables” or “County Districts Tables”, provide detailed demographic and housing related data for the County and its districts. This data is taken from the Housing Demand Survey 2016.

Table B-1. Unit Descriptions, County and Districts of Kaua'i, 2016

	Kaua'i County						
	Waimea-Kekaha	Hanapepe-Eleele	Koloa-Poipu-Kalaheo	Lihue	East Kauai	North Shore-Kauai	Total
TOTAL HOUSEHOLDS	2,916	2,802	2,333	4,931	7,500	2,888	23,370
TENANCY							
Own	54.7%	63.8%	72.1%	63.1%	61.1%	65.6%	62.7%
Rent	37.4%	34.0%	25.3%	33.3%	34.7%	30.2%	33.2%
Other	7.9%	2.2%	2.6%	3.7%	4.2%	4.2%	4.1%
UNIT TYPE							
Single family house	81.1%	93.7%	84.1%	64.7%	85.2%	79.5%	80.6%
Townhouse	0.2%		0.6%	8.5%		2.0%	2.1%
Condominium	0.3%	0.7%	2.8%	8.8%	2.4%	8.9%	4.1%
Duplex/Multiplex	3.2%	0.9%	4.6%	9.3%	7.7%	1.6%	5.6%
Apartment	13.2%	1.2%	5.6%	7.1%	1.9%	5.5%	5.1%
Co-op				1.0%		0.3%	0.2%
Other	1.0%	2.2%	2.3%	0.6%	2.8%	2.2%	1.9%
Not reported	1.0%	1.2%					0.3%
NUMBER OF BEDROOMS							
Studio or One	19.6%	1.7%	9.2%	8.9%	16.6%	21.5%	13.4%
Two	11.9%	15.6%	18.7%	18.4%	16.9%	21.1%	17.1%
Three	48.4%	66.3%	48.6%	53.5%	47.0%	41.5%	50.4%
Four plus	20.1%	16.4%	23.5%	19.2%	19.5%	15.9%	19.1%
NUMBER OF BATHROOMS							
1 bathroom	42.4%	23.7%	24.7%	28.0%	29.2%	25.3%	29.0%
2 bathrooms	11.3%	7.3%	2.8%	7.8%	4.4%	3.1%	6.0%
3 bathrooms	30.4%	54.4%	37.1%	34.6%	39.2%	37.1%	38.5%
4+ bathrooms	15.9%	14.5%	35.4%	29.5%	27.1%	34.6%	26.4%

Source: Housing Demand Survey, 2016.

Table B-2. Households Demographics, County and Districts of Kaua'i, 2016

	Kaua'i County						
	Waimea-Kekaha	Hanapepe-Eleele	Koloa-Poipu-Kalaheo	Lihue	East Kauai	North Shore-Kauai	Total
TOTAL HOUSEHOLDS	2,916	2,802	2,333	4,931	7,500	2,888	23,370
YEARS IN CURRENT UNIT							
Less than 1 year	7.9%	7.4%	5.7%	5.6%	11.5%	9.8%	8.5%
1 to 5 years	22.8%	21.7%	23.8%	30.1%	24.4%	22.4%	24.8%
6 to 10 years	12.0%	16.0%	8.3%	18.3%	16.1%	16.5%	15.3%
More than 10 years	57.3%	54.8%	62.1%	46.0%	48.0%	51.2%	51.4%
HOUSEHOLD TYPES							
Single Member	35.3%	24.7%	22.5%	19.1%	21.9%	17.9%	22.9%
Married couple, no children	17.7%	19.9%	24.1%	28.9%	24.9%	34.3%	25.3%
Parent(s) & children	12.3%	16.7%	16.5%	20.1%	13.7%	11.9%	15.3%
Unrelated Roomates	5.3%	7.6%	7.6%	2.0%	6.0%	8.5%	5.7%
Multiple Families	28.9%	31.2%	28.5%	29.7%	32.9%	26.4%	30.3%
Parent(s) and Adult Child(ren)							
Undetermined	0.5%		0.7%	0.1%	0.6%	1.0%	0.5%
KIDS IN HOUSEHOLD							
At least 1 child	22.4%	32.6%	27.0%	34.2%	28.4%	21.9%	28.5%
No children	77.6%	67.4%	73.0%	65.8%	71.6%	78.1%	71.5%
SENIORS IN HOUSEHOLD							
Single Person HH, 60+	25.6%	13.8%	16.1%	6.9%	7.8%	7.3%	11.3%
2+ HH Members, All 60+	15.2%	18.9%	17.9%	18.3%	19.6%	31.7%	20.0%
2+ HH Members, Only Some 60+	38.3%	44.9%	56.1%	56.8%	51.0%	46.1%	49.8%
No 60+ HH Members	21.0%	22.4%	9.9%	18.0%	21.6%	14.9%	18.8%

Source: Housing Demand Survey, 2016.

Table B-3. Financial Characteristics, County and Districts of Kaua'i, 2016

	Kaua'i County						
	Waimea-Kekaha	Hanapepe-Eleele	Koloa-Poipu-Kalaheo	Lihue	East Kauai	North Shore-Kauai	Total
TOTAL HOUSEHOLDS	2,916	2,802	2,333	4,931	7,500	2,888	23,370
HOUSEHOLD INCOME							
less than $15,000	18.2%	10.2%	8.9%	9.0%	9.2%	12.7%	10.8%
$15,000 to $24,999	11.9%	19.0%	7.2%	5.8%	9.9%	9.4%	10.1%
$25,000 to $49,999	23.7%	22.6%	17.4%	28.2%	28.1%	31.8%	26.3%
$50,000 to $74,999	24.7%	16.5%	21.4%	20.5%	22.3%	15.3%	20.6%
$75,000 to $99,999	10.2%	8.9%	15.4%	11.7%	11.9%	7.6%	11.1%
more than $100,000	11.3%	22.8%	29.7%	24.9%	18.6%	23.2%	21.2%
HUD INCOME LEVELS							
Less than 30%	29.4%	18.4%	13.6%	15.7%	19.9%	19.7%	19.4%
30-50%	16.2%	25.8%	13.0%	18.1%	17.8%	27.1%	19.3%
50-60%	7.1%	5.9%	5.1%	4.9%	5.8%	2.3%	5.3%
60-80%	12.8%	14.2%	11.5%	14.7%	17.1%	14.0%	14.8%
80-120%	9.8%	4.9%	12.5%	6.0%	7.3%	5.5%	7.3%
120-140%	9.6%	10.0%	11.7%	16.7%	10.7%	5.7%	11.3%
140-180%	6.6%	9.8%	18.2%	11.4%	10.5%	8.7%	10.7%
More than 180%	8.6%	10.9%	14.4%	12.5%	10.8%	17.0%	12.0%
SHELTER-TO-INCOME RATIO							
No shelter cost	19.3%	26.6%	22.6%	18.5%	16.8%	29.8%	20.8%
less than 30 percent	35.1%	36.2%	37.5%	44.7%	38.4%	21.2%	36.8%
30 to 40 percent	11.4%	12.3%	14.1%	7.7%	11.6%	9.7%	10.8%
Over 40 percent	33.6%	19.1%	18.8%	24.1%	28.0%	31.1%	26.3%
Not reported	0.5%	5.8%	7.0%	5.0%	5.2%	8.2%	5.2%

Source: Housing Demand Survey, 2016.

Table B-4. Doubling Up, Crowding, and Hidden Homeless, County and Districts of Kaua'i, 2016

	Kaua'i County						
	Waimea-Kekaha	Hanapepe-Eleele	Koloa-Poipu-Kalaheo	Lihue	East Kauai	North Shore-Kauai	Total
TOTAL HOUSEHOLDS	2,916	2,802	2,333	4,931	7,500	2,888	23,370
HH THAT ARE DOUBLED UP							
Yes	8.7%	19.9%	6.5%	9.9%	13.0%	8.8%	11.5%
No	91.3%	80.1%	93.5%	90.1%	87.0%	91.2%	88.5%
PERSONS PER BEDROOM							
Less than 2.00	93.5%	95.5%	95.9%	91.1%	88.7%	86.7%	91.1%
2.00 or more	6.5%	4.5%	4.1%	8.9%	11.3%	13.3%	8.9%
HH THAT ARE CROWDED, DOUBLED UP, OR BOTH							
Either or Both	14.2%	22.4%	10.4%	17.4%	23.0%	21.3%	19.2%
Neither	85.8%	77.6%	89.6%	82.6%	77.0%	78.7%	80.8%
HIDDEN HOMELESS AND AT RISK OF HOMELESSNESS							
At Risk for Homelessness	56.5%	52.6%	43.1%	46.9%	53.5%	55.7%	51.6%
Hidden Homeless	4.8%	10.4%	4.5%	5.1%	6.5%	4.5%	6.0%
Has Adequate Housing	38.6%	37.0%	52.4%	48.1%	40.0%	39.8%	42.4%

Source: Housing Demand Survey, 2016.

Table B-5. Intention to Move, County and Districts of Kauaʻi, 2016

	Kauaʻi County						
	Waimea-Kekaha	Hanapepe-Eleele	Koloa-Poipu-Kalaheo	Lihue	East Kauai	North Shore-Kauai	Total
TOTAL HOUSEHOLDS	2,916	2,802	2,333	4,931	7,500	2,888	23,370
WANT TO MOVE							
Yes or Not Sure	24.8%	30.8%	33.5%	37.2%	38.6%	38.6%	35.1%
No or Not Sure	75.2%	69.2%	66.5%	62.8%	61.4%	61.4%	64.9%
FINAL DEMAND MOVERS[a]	724	862	781	1,834	2,896	1,114	8,211
SOONEST WILL MOVE							
Within 1 Year	25.3%	17.0%	18.3%	22.0%	21.1%	21.1%	21.1%
1 to 2 Years	11.8%	26.3%	21.3%	15.8%	25.4%	26.1%	21.6%
3 to 5 Years	18.9%	31.8%	23.6%	12.9%	21.6%	18.2%	19.9%
MoreThan 5 Years	19.9%	15.8%	24.2%	24.8%	17.6%	16.8%	19.9%
PLANNED NEXT LOCATION							
Moving In Hawaii or Not Sure	88.7%	68.3%	77.1%	83.1%	75.6%	80.6%	78.5%
Moving Out-of-State	11.3%	31.7%	22.9%	16.9%	24.4%	19.4%	21.5%
EFFECTIVE DEMAND MOVERS[b]	649	610	641	1,646	2,291	912	6,750

Source: Housing Demand Survey, 2016

[a] Final Demand Movers are those who will move and have an idea about the time frame of their move.
[b] Effective Demand Movers are those who will move, have an idea about the time frame of their move, and plan to remain in the State of Hawai'i when they move.

Table B-6. Mover Tenancy Preferences, County and Districts of Kauaʻi, 2016

	Kauaʻi County						
	Waimea-Kekaha	Hanapepe-Eleele	Koloa-Poipu-Kalaheo	Lihue	East Kauai	North Shore-Kauai	Total
EFFECTIVE DEMAND MOVERS	649	610	641	1,646	2,291	912	6,750
PLANNED NEXT TENANCY							
Plan to Buy	32.9%	63.9%	41.2%	46.8%	45.4%	39.7%	45.0%
Plan to Rent or Other	67.1%	36.1%	58.8%	53.2%	54.6%	60.3%	55.0%
CERTAIN TO BUY							
Certain to Buy	82.6%	88.1%	90.0%	88.4%	74.2%	98.1%	84.4%
Might Have To Rent	17.4%	8.9%	8.7%	10.4%	23.5%		13.8%
Not Sure		3.1%	1.3%	1.2%	2.4%	1.9%	1.9%
WOULD BUY IF AFFORDABLE							
Yes	80.8%	100.0%	71.8%	77.7%	87.5%	78.3%	82.2%
No	19.2%		24.2%	9.2%	9.2%	18.2%	12.8%
Not Sure			4.0%	13.1%	3.3%	3.5%	5.1%

Source: Housing Demand Survey, 2016
Base for Preferred Next Tenancy is all effective demand households.
Base for Certain to Buy is all effective demand households that prefer to purchase their next home.
Base for Would Buy If Affordable is all effective demand households that prefer to rent their next home.

Table B-7. Buyer Unit Preferences, County and Districts of Kaua'i, 2016

	Kaua'i County						
	Waimea-Kekaha	Hanapepe-Eleele	Koloa-Poipu-Kalaheo	Lihue	East Kauai	North Shore-Kauai	Total
TOTAL BUYER HOUSEHOLDS	214	390	264	770	1,040	362	3,040
PREFERRED UNIT TYPE							
Single family home	75.3%	100.0%	92.3%	77.7%	86.2%	95.7%	86.7%
Townhouse	15.1%		7.7%				1.7%
Condo				22.3%	13.8%	4.3%	10.9%
Other	9.7%						0.7%
Not Sure							
PREFERRED NUMBER OF BEDROOMS							
Studio or One			3.4%	3.7%	10.4%	2.7%	5.1%
Two	22.8%		2.9%	28.7%	21.8%	33.1%	20.5%
Three	66.7%	78.1%	71.3%	40.1%	46.2%	57.2%	53.7%
Four plus	10.5%	21.9%	22.5%	27.5%	21.6%	7.0%	20.7%
MINIMUM ACCEPTABLE BEDROOMS							
One	15.4%	25.4%	1.4%	4.0%	13.4%	10.9%	11.9%
Two	56.7%	38.3%	59.2%	50.6%	46.7%	39.0%	47.5%
Three	27.9%	33.2%	39.4%	43.5%	33.9%	47.5%	37.6%
Four plus		3.1%		1.8%	4.5%	2.6%	2.6%
PREFERRED NUMBER OF BATHROOMS							
One				7.9%	10.9%	2.2%	6.0%
One and one-half	2.9%		3.4%	4.8%	7.4%	3.9%	4.7%
Two	75.7%	48.7%	61.4%	45.7%	66.7%	52.9%	57.6%
Two and one-half		24.5%	20.5%	13.8%	9.1%	21.4%	14.1%
Three	18.1%	11.0%	14.7%	27.9%	4.9%	18.0%	14.9%
Three and one-half		15.7%					2.0%
Four or more	3.4%				1.0%	1.7%	0.8%
MINIMUM ACCEPTABLE BATHROOMS							
One	80.1%	38.9%	31.5%	34.0%	43.7%	42.5%	42.1%
One and one-half	4.5%	8.0%	1.2%	12.3%	18.2%	10.5%	11.7%
Two	13.5%	35.8%	59.7%	50.6%	36.7%	25.8%	39.0%
Two and one-half			3.9%	3.2%	1.4%	21.2%	4.2%
Three	1.8%	17.3%	3.7%				3.0%

Source: Housing Demand Survey, 2016

Table B-8. Renter Unit Preferences, County and Districts of Kaua'i, 2016

	Kaua'i County						
	Waimea-Kekaha	Hanapepe-Eleele	Koloa-Poipu-Kalaheo	Lihue	East Kauai	North Shore-Kauai	Total
TOTAL RENTER HOUSEHOLDS	321	156	327	640	998	362	2,804
PREFERRED UNIT TYPE							
Single family house	75.3%	100.0%	92.3%	77.7%	86.2%	95.7%	86.7%
Townhouse	15.1%		7.7%				1.7%
Condo				21.4%	4.6%	4.3%	7.5%
Apartment				0.9%	9.2%		3.4%
Other	9.7%						0.7%
Not Sure							
PREFERRED NUMBER OF BEDROOMS							
Studio or One			3.4%	3.7%	10.4%	2.7%	5.1%
Two	22.8%		2.9%	28.7%	21.8%	33.1%	20.5%
Three	66.7%	78.1%	71.3%	40.1%	46.2%	57.2%	53.7%
Four plus	10.5%	21.9%	22.5%	27.5%	21.6%	7.0%	20.7%
MINIMUM ACCEPTABLE BEDROOMS							
One	15.4%	25.4%	1.4%	4.0%	13.4%	10.9%	11.9%
Two	56.7%	38.3%	59.2%	50.6%	46.7%	39.0%	47.5%
Three	27.9%	33.2%	39.4%	43.5%	33.9%	47.5%	37.6%
Four plus		3.1%		1.8%	4.5%	2.6%	2.6%
PREFERRED NUMBER OF BATHROOMS							
One				7.9%	10.9%	2.2%	6.0%
One and one-half	2.9%		3.4%	4.8%	7.4%	3.9%	4.7%
Two	75.7%	48.7%	61.4%	45.7%	66.7%	52.9%	57.6%
Two and one-half		24.5%	20.5%	13.8%	9.1%	21.4%	14.1%
Three	18.1%	11.0%	14.7%	27.9%	4.9%	18.0%	14.9%
Three and one-half		15.7%					2.0%
Four or more	3.4%				1.0%	1.7%	0.8%
MINIMUM ACCEPTABLE BATHROOMS							
One	80.1%	38.9%	31.5%	34.0%	43.7%	42.5%	42.1%
One and one-half	4.5%	8.0%	1.2%	12.3%	18.2%	10.5%	11.7%
Two	13.5%	35.8%	59.7%	50.6%	36.7%	25.8%	39.0%
Two and one-half			3.9%	3.2%	1.4%	21.2%	4.2%
Three	1.8%	17.3%	3.7%				3.0%

Source: Housing Demand Survey, 2016

Table B-9. Preferred Next Location, County and Districts of Kaua'i, 2016

	Kaua'i County						
	Waimea-Kekaha	Hanapepe-Eleele	Koloa-Poipu-Kalaheo	Lihue	East Kauai	North Shore-Kauai	Total
PREFERRED LOCATION OF NEXT UNIT - BUYERS							
PUC	3.2%		12.7%	2.4%	1.0%	1.9%	2.5%
Leeward Oahu	6.8%		1.2%				0.6%
Windward Oahu					1.1%		0.4%
South Kona-Kau			3.4%		1.8%		0.9%
Puna			1.4%				0.1%
North Hawaii		8.0%					1.0%
Hana				7.3%	16.9%	11.8%	9.0%
Makawao-Pukalani-Kula				0.9%			0.2%
Kihei-Makena	9.7%	3.1%	28.6%		1.9%		4.2%
West Maui				1.4%	3.0%		1.4%
Waimea	18.6%	24.6%					4.5%
Koloa	19.5%		37.2%	14.0%		1.4%	8.3%
Lihue		13.5%	3.9%	41.3%	7.9%		15.2%
Kawaihau				3.9%	28.5%		10.7%
Hanalei						21.1%	2.5%
Oahu, any			3.9%	1.8%			0.8%
Kaua'I, any	10.1%			4.6%	4.3%	21.1%	5.9%
No Preference	32.1%	50.9%	7.7%	22.6%	33.6%	42.7%	31.8%
Total Effective Demand Buyers	214	390	264	770	1,040	362	3,040
PREFERRED LOCATION OF NEXT UNIT - RENTERS							
PUC		3.8%		0.8%	5.6%	1.4%	2.6%
Central Oahu					1.0%		0.4%
Windward Oahu					0.3%		0.1%
South Kona-Kau	8.4%				2.0%	3.9%	2.2%
North & South Hilo					1.7%		0.6%
North Hawaii					2.9%		1.0%
Hana	9.0%	8.9%	3.6%	1.0%	36.2%	27.1%	18.6%
Paia-Haiku				0.9%			0.2%
Kihei-Makena		13.5%	23.0%		1.5%		4.0%
West Maui	22.2%	39.3%	0.5%				4.8%
Molokai					1.1%		0.4%
Waimea	22.1%	16.3%					3.4%
Koloa	12.2%		40.6%	9.0%	2.7%		9.2%
Lihue	12.4%		2.9%	44.8%	3.1%	0.4%	13.1%
Kawaihau	3.6%		3.0%	0.7%	10.5%		4.7%
Hanalei					4.7%	26.1%	5.0%
Oahu, any		18.1%	3.5%				1.4%
Maui, any						3.9%	0.5%
Kaua'i, any			4.7%	15.4%	7.2%	10.1%	7.9%
No Preference	10.2%		18.2%	27.4%	19.5%	27.0%	20.0%
Total Effective Demand Renters	321	156	327	640	998	362	2,804

Source: Housing Demand Survey, 2016

Table B-10. Current and Affordable Housing Payment, County and Districts of Kaua'i, 2016

	Kaua'i County						
	Waimea-Kekaha	Hanapepe-Eleele	Koloa-Poipu-Kalaheo	Lihue	East Kauai	North Shore-Kauai	Total
AVERAGE CURRENT MORTGAGE AMOUNT							
Single Family Unit	$1,802	$2,129	$2,009	$1,744	$1,642	$2,352	$1,841
Multi-Family Unit	$1,624	$350	$1,380	$1,583	$923	$2,751	$1,682
All Units	$1,798	$2,109	$1,976	$1,702	$1,606	$2,439	$1,824
AVERAGE CURRENT RENT AMOUNT							
Two-Bedroom Unit	$1,298	$1,273	$1,207	$1,215	$1,428	$1,788	$1,354
All Units	$930	$856	$1,284	$1,333	$1,369	$1,583	$1,256
AFFORDABLE MORTGAGE PAYMENT							
Less than $500	1.2%	16.5%		3.4%	1.4%	7.4%	4.3%
$500 to $799	21.5%		1.3%		3.7%	2.1%	3.6%
$800 to $1,099	22.0%	8.4%	1.6%	9.3%	16.1%	4.9%	11.4%
$1,100 to $1,399	22.3%	12.8%	8.1%	2.1%	18.9%		11.1%
$1,400 to $1,699	6.3%	17.9%	7.3%	21.8%	9.3%	8.6%	12.8%
$1,700 to $1,999	1.7%		9.9%	18.4%	6.2%	8.5%	8.5%
$2,000 to $2,999	20.5%	39.5%	32.3%	35.1%	35.2%	22.8%	32.5%
$3,000 to $3,999		4.9%	9.9%		5.4%	9.7%	4.5%
$4,000 or more			11.5%	1.2%	3.2%	27.2%	5.9%
Not Sure	4.6%		18.1%	8.7%	0.7%	8.7%	5.3%
Average Affordable Mortgage	$959	$1,269	$1,932	$1,459	$1,417	$2,086	$1,486
AFFORDABLE RENT PAYMENT							
Less than $300	5.8%	39.3%	3.8%	2.7%	5.9%	5.3%	6.4%
$300 to $499			0.3%	4.5%	5.4%	4.8%	3.7%
$500 to $799	21.7%	13.5%	2.5%	25.5%	8.7%	9.7%	14.0%
$800 to $1,099	24.3%	11.1%	34.1%	10.1%	18.0%	24.6%	19.1%
$1,100 to $1,399	18.0%		8.2%	13.0%	12.0%	4.0%	10.7%
$1,400 to $1,699	13.0%	17.9%	14.8%	27.9%	13.3%	7.1%	16.4%
$1,700 to $1,999	5.5%	18.1%	5.8%	6.0%	7.9%	15.6%	8.6%
$2,000 to $2,499			12.0%	0.3%	9.1%	21.9%	7.7%
$2,500 to $2,999	4.3%			4.9%		7.0%	2.7%
$3,000 or more	2.0%		10.1%	3.3%	19.7%		8.8%
Not Sure	5.4%		8.4%	1.8%			1.9%
Average Affordable Rent	$1,156	$846	$1,535	$1,267	$1,647	$1,452	$1,422

Source: Housing Demand Survey, 2016

Note. Base for Average Current Mortgage is current owners who specified the amount of their current monthly mortgage payment. Base for Average Current Rent is current renters who specified the amount of their current monthly rent payment. Base for Affordable Mortgage Payment is effective demand movers who plan to purchase their next home. Base for Affordable Rent Payment is effective demand movers who plan to rent their next home.

Table B-11. Down Payment and Real Estate Ownership, County and Districts of Kaua'i, 2016

	Kaua'i County						
	Waimea-Kekaha	Hanapepe-Eleele	Koloa-Poipu-Kalaheo	Lihue	East Kauai	North Shore-Kauai	Total
AMOUNT AVAILABLE FOR DOWN PAYMENT							
None	21.7%	14.9%	5.1%	1.3%	5.7%	6.3%	7.3%
Less than $5,000	9.9%	40.7%	4.2%	8.7%	2.9%		9.2%
$5,000 to 14,999	24.5%	19.8%	9.4%	7.3%	10.6%	8.3%	11.8%
$15,000 to $24,999	13.1%	7.8%	6.7%	8.1%	20.6%	3.0%	11.9%
$25,000 to $39,999	6.8%		10.7%	14.2%	7.8%	9.9%	8.8%
$40,000 to $59,999	3.9%		25.8%	5.6%	7.8%	14.1%	8.3%
$60,000 to $99,999	13.1%		6.8%	15.9%		3.0%	5.9%
$100,000 or more	2.5%	16.8%	16.5%	26.3%	30.2%	42.9%	25.6%
Not Sure	4.6%		14.9%	12.5%	14.3%	12.5%	11.1%
Average Amount for Down Payment	$25,136	$29,945	$57,619	$71,339	$67,187	$89,824	$61,081
OWN OTHER RESIDENTIAL PROPERTY							
Yes	9.5%	5.7%	21.5%	18.2%	17.5%	18.5%	15.7%
No	90.5%	94.3%	78.5%	81.8%	82.5%	81.5%	84.3%

Source: Housing Demand Survey, 2016

APPENDIX C: DETAILED DATA WORKSHEETS

Table C-1. Home Ownership Rates, 1990-2014

	County				
	Hawai'i	Honolulu	Kaua'i	Maui	State
1990	61.1	52.6	58.6	57.5	53.9
1992	61.4	52.7	59.7	57.4	54.5
1997	63.8	54.2	61.2	57.4	56.1
1999	64.2	54.5	61.3	57.4	56.4
2000	64.5	54.6	61.4	57.4	56.5
2003	66.1	54.9	62.0	58.3	57.2
2004	66.9	57.2	62.9	58.5	59.0
2005	67.2	57.6	64.0	58.6	59.4
2006	67.2	58.9	65.2	61.4	60.7
2007	66.0	56.9	66.6	58.6	58.9
2008	64.8	57.5	63.7	57.8	58.9
2009	65.7	56.0	65.0	58.1	58.1
2010	66.2	57.6	65.0	58.8	59.3
2011	65.9	56.9	63.6	58.3	58.7
2012	65.1	56.4	62.9	58.1	58.2
2013	65.7	55.5	62.6	58.1	57.6
2014	65.8	54.9	62.7	57.3	57.1

Sources: 1990 and 2000, U.S. Census; Honolulu 2003, 2004, ACS; Honolulu, Hawai'i, and Maui Counties from ACS, 2005; ACS 2007-2008 (3-yr Estimate), ACS 2009-2014 (5-yr Estimate) Table B25003; all other estimated by SMS

Table C-2 . Vacancy Rates, by State: 1986 to 2015

	Rental Rate		Homeowner Rate	
	U.S.	Hawai'i	U.S.	Hawai'i
1986	7.7	5.7	1.6	0.8
1987	7.7	6.5	1.7	1.1
1988	7.7	6.3	1.6	0.4
1989	7.4	6.6	1.8	1.0
1990	7.2	6.6	1.7	0.8
1991	7.4	5.8	1.7	1.4
1992	7.4	5.8	1.5	2.5
1993	7.3	6.8	1.4	3.0
1994	7.4	7.4	1.5	2.0
1995	7.6	6.3	1.5	2.0
1996	7.8	6.0	1.6	1.4
1997	7.7	7.1	1.6	1.6
1998	7.9	6.9	1.7	1.3
1999	8.1	7.6	1.7	1.8
2000	8.0	5.3	1.6	0.9
2001	8.4	8.2	1.8	0.8
2002	8.9	7.3	1.7	0.9
2003	9.8	8.9	1.8	1.2
2004	10.2	9.7	1.7	1.3
2005	9.8	5.1	1.9	0.6
2006	9.7	5.5	2.4	1.0
2007	9.7	6.3	2.7	1.7
2008	10.0	7.2	2.8	1.7
2009	10.6	9.2	2.6	1.9
2010	10.2	8.1	2.6	1.9
2011	9.5	9.4	2.5	2.2
2012	8.7	10.2	2.0	2.3
2013	8.3	10.1	2.0	1.8
2014	7.6	8.3	1.9	1.6
2015	7.1	8.7	1.8	1.5

Source: Homeownership and Vacancy Rate Survey, 1986-2015

Table C-3. Vacancy Categories, 2009 - 2014

Statewide	Total Housing Units	Occupied Housing Units	Vacant Housing Units	Vacant and Available Units	Total Available Units (Housing Stock)	Current Residence Elsewhere	Seasonal
2009	505,087	437,976	67,111	23,496	461,472	12,633	29,786
2010	512,157	442,267	69,890	26,240	468,507	12,526	29,955
2011	516,394	445,513	70,881	28,163	473,676	11,582	29,564
2012	519,811	447,453	72,358	28,193	475,646	11,310	30,624
2013	522,164	449,771	72,393	27,155	476,926	11,350	31,854
2014	524,852	450,299	74,553	27,221	477,520	11,160	33,054
% chg. from 2010-2014	2.5%	1.8%	6.7%	3.7%	1.9%	-10.9%	10.3%

Source: ACS 2009 – 2014 Table DP04, B25007

Table C-3 summarizes the current housing vacancy status for the State of Hawai'i over the years of 2009-2014. The total housing units shows us how many total housing units there are in the State of Hawai'i, regardless of whether they are occupied or vacant. In 2014, there were 524,852 housing units as opposed to 505,087 in 2009, which was an increase of 2.5%. Of the 524,852 housing units, 450,299 (85.8%) of them are occupied by households and the remaining 74,553 (14.2%) units are vacant. Not all of the vacant units are available for sale, or for rent to the housing market. Vacant and available units excluded vacant units that are not available to the residents. In 2014, vacant and available units account for only 36.5% of the total vacant housing units in contrast to 35.0% in 2009, an increase of only 1.5 percentage point over the past five years. Summing the vacant and available units with the occupied housing units define the total housing stock. In 2014, the number of vacant and available housing units was about 5.7% of the total housing stock. This reflects an increase of only 0.6 percentage point since 2009.

APPENDIX D: LAND USE REGULATION INDEX

Table D-1. Wharton Residential Land Use Regulation Index by State

Rank	State	Index Value[a]	Observations
1	Hawai'i	2.32	1
2	Rhode Island	1.58	17
3	Massachusetts	1.56	79
4	New Hampshire	1.36	32
5	New Jersey	0.88	104
6	Maryland	0.79	18
7	Washington	0.74	49
8	Maine	0.68	44
9	California	0.59	182
10	Arizona	0.58	40
11	Colorado	0.48	48
12	Delaware	0.48	5
13	Connecticut	0.38	65
14	Pennsylvania	0.37	182
15	Florida	0.37	987
16	Vermont	0.35	24
17	Minnesota	0.08	80
18	Oregon	0.08	42
19	Wisconsin	0.07	93
20	Michigan	0.02	111
21	New York	-0.01	93
22	Utah	-0.07	41
23	New Mexico	-0.11	16
24	Illinois	-0.19	139
25	Virginia	-0.19	35
26	Georgia	-0.21	56
27	North Carolina	-0.35	64
28	Montana	-0.36	6
29	Ohio	-0.36	135
30	Texas	-0.45	165
31	Nevada	-0.45	7
32	Wyoming	-0.45	7
33	North Dakota	-0.54	8
34	Kentucky	-0.57	28
35	Idaho	-0.63	19
36	Tennessee	-0.68	41
37	Nebraska	-0.68	22
38	Oklahoma	-0.70	36
39	South Carolina	-0.76	30
40	Mississippi	-0.82	21
41	Arkansas	-0.86	23
42	West Virginia	-0.90	15
43	Alabama	-0.94	37
44	Iowa	-0.99	59
45	Indiana	-1.01	47
46	Missouri	-1.03	67
47	South Dakota	-1.04	11
48	Louisiana	-1.06	19
49	Alaska	-10.7	7
50	Kansas	-1.13	46

Source: Gyourko, Joseph, Albert Saiz, and Anita A. Summers, 2007. A New Measure of the Local Regulatory Environment for Housing Markets: The Wharton Residential Land Use Regulatory Index. The Wharton School, University of Pennsylvania, Final Version: March 29, 2007.

Note: [a] The Wharton Residential Land Use Regulatory Index is an aggregate measure of the eleven sub-indexes that intended to capture the stringency of local regulatory environment across the U.S.

APPENDIX E: SPECIAL NEEDS HOUSING

Table E-1. Special Needs Population and Housing Summary, City & County of Honolulu, 2011

CITY & COUNTY OF HONOLULU

Special Needs Population	Total SN Pop. Count	% of Total Population	Affordable Housing Inventory	HH In Need of Supportive Housing	Unmet Housing Need
Elderly	169,361	17.8%	4603		
Frail elderly	5,281	0.6%			
Exiting offender	1,376	0.1%			
Persons with alcohol or other drug addictions	98,848	10.4%			
Persons with disabilities	87,950	9.2%			
Persons with developmental disabilities	1,700	0.2%			
Persons with HIV/AIDS	1,624	0.2%			
Persons with severe mental illness	47,660	5.0%	144		
Victims of domestic violence		0.0%			
Youth exiting foster care	128	<0.1%			
Total			226 SN		

Table E-2. Special Needs Population and Housing Summary, County of Hawai‘i, 2011

COUNTY OF HAWAII

Special Needs Population	Total SN Pop. Count	% of Total Population	Affordable Housing Inventory	HH In Need of Supportive Housing	Unmet Housing Need
Elderly	34,368	18.6%	651		
Frail elderly	1,674	0.9%			
Exiting offenders	267	0.1%			
Persons with alcohol or other drug addictions	17,749	9.6%			
Persons with disabilities	22,004	11.9%			
Persons with developmental disabilities	330	0.2%			
Persons with HIV/AIDS	315	0.2%			
Persons with severe mental illness	9,254	5.0%	46		
Victims of domestic violence	1,078	0.6%			
Youth exiting foster care	20	<0.1%			
Total			89 SN		

Table E-3. Special Needs Population and Housing Summary, County of Maui, 2011

COUNTY OF MAUI

Special Needs Population	Total SN Pop. Count	% of Total Population	Affordable Housing Inventory	HH In Need of Supportive Housing	Unmet Housing Need
Elderly	25,328	16.4%	684		
Frail elderly	1,021	0.7%			
Exiting offenders	223	0.1%			
Persons with alcohol or other drug addictions	12,108	7.8%			
Persons with disabilities	13,186	8.5%			
Persons with developmental disabilities	276	0.2%			
Persons with HIV/AIDS	264	0.2%			
Persons with severe mental illness	7,742	5.0%	53		
Victims of domestic violence		0.0%			
Youth exiting foster care	17	<0.1%			
Total			95 SN		

Table E-4. Special Needs Population and Housing Summary, County of Kaua'i, 2011

COUNTY OF KAUAI

Special Needs Population	Total SN Pop. Count	% of Total Population	Affordable Housing Inventory	HH In Need of Supportive Housing	Unmet Housing Need
Elderly	12,594	18.8%	246		
Frail elderly	725	1.1%			
Exiting offenders	97	0.1%			
Persons with alcohol or other drug addictions	5,884	8.8%			
Persons with disabilities	7,295	10.9%			
Persons with developmental disabilities	120	0.2%			
Persons with HIV/AIDS	115	0.2%			
Persons with severe mental illness	3,355	5.0%	41		
Victims of domestic violence		0.0%			
Youth exiting foster care	7	<0.1%			
Total			27 SN		

Sources:
Elderly data from Census 2010
Frail elderly data from HPS Housing Demand Survey 2011
Exiting offenders' data from Bureau of Justice Statistics, Probation and Parole in the United States-2009. Not available at the county level so State data was distributed according to proportion of the population.
Substance abuse data from SAMHSA, Office of Applied Studies, National Survey on Drug Use and Health, 2006-2008
Persons with disabilities data from ACS 2009
Persons with developmental disabilities data from DDD, CMISB – Report to the 2009 Legislature pursuant to Act 303, SLH 2006
HIV/AIDS data from 2011 HIV/AIDS Surveillance Report
Mental illness data from Hawai'i Department of Health, Adult Mental Health Division
Domestic violence data from the Hawai'i Department of Human Services (DHS)

Table E-5. AMHD Statewide Current and Planned Housing Inventory, 2004-2012

	2004	2005	2006	2007	2008	2009	2010	2011	2012	Total
24-Hour Group Homes										
Oahu	36	53	68	75	24	16	32	24	16	344
Maui	0	8	0	8	16	0	8	8	0	48
Hawaii	24	0	24	8	24	16	8	8	8	120
Kauai	0	10	0	0	8	8	8	0	0	34
Total	60	71	92	91	72	40	56	40	24	546
8-16 Hour Group Homes										
Oahu	57	24	14	44	32	16	32	16	16	251
Maui	5	6	0	8	18	8	0	8	8	61
Hawaii	16	0	20	8	16	8	8	8	8	92
Kauai	4	0	5	0	9	0	8	0	0	26
Total	82	30	39	60	75	32	48	32	32	430
Semi-Independent Living										
Oahu	55	72	5	0	0	0	5	0	5	142
Maui	21	0	-5	0	0	5	0	5	0	26
Hawaii	30	0	5	5	5	0	0	0	5	50
Kauai	18	-4	0	0	0	0	0	5	0	19
Total	124	68	5	5	5	5	5	10	10	237
Licensed TLP										
Oahu	0	0	0	0	40	0	5	0	0	45
Maui	0	0	0	0	0	8	0	0	0	8
Hawaii	0	0	0	0	0	16	0	5	0	21
Kauai	0	0	0	0	0	0	5	0	0	5
Total	0	0	0	0	40	24	10	5	0	79
Licensed Specialized Residential										
Oahu	37	-15	0	0	16	0	0	0	0	38
Maui	0	0	0	0	0	0	0	0	0	0
Hawaii	0	0	0	0	0	0	0	0	0	0
Kauai	0	0	0	0	0	0	0	0	0	0
Total	37	-15	0	0	16	0	0	0	0	38
Licensed Specialized Residential (Dual)										
Oahu	69	0	8	0	5	0	5	0	5	92
Maui	0	4	4	0	0	0	5	0	5	18
Hawaii	0	0	0	0	0	16	0	0	0	16
Kauai	0	0	0	0	0	0	0	0	0	0
Total	69	4	12	0	5	16	10	0	10	126
Licensed Crisis Residential										
Oahu	19	-3	0	0	0	0	0	0	0	16
Maui	8	-4	4	0	0	0	0	0	0	8
Hawaii	5	4	0	8	0	0	0	0	0	17
Kauai	0	0	0	0	5	0	0	0	0	5
Total	32	-3	4	8	5	0	0	0	0	46
Safe Haven (Homeless)										
Oahu	25	0	0	0	0	0	0	0	0	25
Maui	0	0	0	0	12	0	0	0	0	12
Hawaii	0	0	0	0	0	0	0	0	0	0
Kauai	0	0	0	0	0	0	5	0	0	5
Total	25	0	0	0	12	0	5	0	0	42

Source: State of Hawai'i Adult Mental Health Division, *Community Housing Plan for Adults with Severe and Persistent Mental Illness, 2008-2012*. Nov. 2007. p.22.

Table E-5. AMHD Statewide Current and Planned Housing Inventory, 2004-2012 (continued)

	2004	2005	2006	2007	2008	2009	2010	2011	2012	Total
Supported Housing / Bridge Subsidy										
Oahu	185	0	0	0	0	50	0	50	0	285
Maui	50	0	0	0	0	40	0	25	0	115
Hawaii	70	0	0	0	0	40	0	30	0	140
Kauai	27	0	0	0	0	10	0	5	0	42
Total	332	0	0	0	0	140	0	110	0	582
Consumers Moved from Bridge to Section 8					8					
Oahu	67	26	50	45	35	25	25	25	25	323
Maui	13	15	8	20	20	30	18	15	10	149
Hawaii	5	12	7	25	25	25	15	10	10	134
Kauai	5	2	3	15	10	15	10	8	7	75
Total	90	55	68	105	90	95	68	58	52	681
Shelter Plus Care to Rental Subsidies (Homeless)										
Oahu	85	144	12	0	0	14	20	20	25	320
Maui	0	0	18	0	0	0	12	0	14	44
Hawaii	0	24	10	14	0	18	0	14	12	92
Kauai	0	0	0	10	0	0	0	10	0	20
Total	85	168	40	24	0	32	32	44	51	476
Consumers Moved from Shelter Plus Care to Section 8										
Oahu	0	15	20	35	25	25	20	25	20	185
Maui	0	0	1	1	8	10	10	12	10	52
Hawaii	0	0	7	7	15	15	15	15	10	84
Kauai	0	0	0	0	3	3	5	3	5	19
Total	0	15	28	43	51	53	50	55	45	340
Office of Social Ministry in partnership with HPHA and AMHD										
Beyond Shelter Apts.	0	0	41	0	0	0	0	0	0	41
Kihei Pua	0	0	72	0	0	0	0	0	0	72
Ponahawaiola Apts.	0	0	28	0	0	0	0	0	0	28
Total	0	0	141	0	0	0	0	0	0	141
Total Housing Capacity-Year										
Total Housing	936	393	429	336	371	437	284	354	224	3,764

Source: State of Hawai'i Adult Mental Health Division, *Community Housing Plan for Adults with Severe and Persistent Mental Illness, 2008-2012*. Nov. 2007. p.22.

Table E-6. Housing Affordability Estimates, 2016

	State	Counties			
		Hawaii	Honolulu	Kauai	Maui
Housing Wage	$34.22	$22.96	$38.17	$23.81	$24.73
Housing Costs					
2-bedroom fair market rent	$1,780	$1,194	$1,984	$1.238	$1,286
Annual income needed to afford 2BR FMR	$71,184	$47,760	$79,400	$49,520	$51,440
FT jobs at mini wage needed to afford 2BR	4.0	2.7	4.5	2.8	2.9
Area Median Income (AMI)					
Annual AMI	$82,123	$57,600	$87,900	$74,300	$81,500
Monthly rent affordable at AMI	$2,053	$1,440	$2,198	$1,858	$2,038
30% of AMI	$24,637	$17,280	$26,370	$22,290	$24,450
Monthly rent affordable at 30% of AMI	$616	$432	$659	$557	$611
Renter Households					
Renter households (2010-2014)	192,984	22,101	139,799	8,349	22,691
% of total households (2011-2014)	43%	34%	45%	37%	43%
Estimated hourly mean renter wage (2016)	$14.53	$10.45	$15.39	$13.52	$13.41
Monthly rent affordable at mean renter wage	$755	$543	$800	$703	$697
Full-time jobs at mean renter wage needed to afford 2BR	2.4	2.2	2.5	1.8	1.8

Source. National Low-Income Housing Coalition "Out Of Reach Report, 2016" Hawai'i data.

Table E-7. Public Housing Units Numbers, 2000 – 2015

Hawai'i Public Housing Authority										
Public Housing Data										
			2003	2006	2007	2011	2012	2013	2014	2015
Number of Projects Managed by HPHA	State, as reported		81			84	85	85	85	85
	State, sum of counties	Properties						78	82	83
	Honolulu	Properties						43	44	44
	Hawai'i	Properties						18	20	21
	Kaua'i	Properties						10	11	11
	Maui	Properties						7	7	7
Number of Units Managed by HPHA	State, as reported					5,581	6,195	6,195	6,916	6,196
	State, sum of counties	Units						6,055	5,713	5,410
	Honolulu	Units						4,854	4,417	4,110
	Hawai'i	Units						651	721	725
	Kaua'i	Units						322	347	347
	Maui	Units						228	228	228
Types of Units	Income Level	Units 80% AMI or below				5,581	6,196	6,196	6,196	5,410
		Units 30% AMI and below				2,232	2,478	2,478	2,478	2,478
	Funding Agency	Federal (HUD subsidized)		5,300		4,717	5,331	5,331	5,332	5,332
		State (No Subsidy)		860		864	864	864	864	864
	Resident Types	Units Suited to Families				3,699	2,539	2,980	2,870	2,776
		Units For Elderly, and Special Needs persons				3,987	2,459	2,080	2,012	2,041
Service	Individuals Served		14,000	14,000		15,000	13,500	18,500	20,000	13,600
	Families Served		6,200	6,200		5,600	5,100	6,100	6,100	6,100
Average Housing Assistance Payment/mo.	All Parties Served						$286.24	$286.24	$264.31	$295.67
	Federal Families						$321	$321	$257	$304
	Federal Elderly						$215	$215	$249	$251
	State Family						$290	$290	$353	$393
	State Elderly						$240	$240	$298	$299
Planned Additions	Projects									11
	New Units									8,045
	Reservations	Completed by 2016								-
		Completed by 2017								1,920
		Completed by 2018								900
		Completed by 2019								4,825
		Completed by 2020								400

Table E-8. Public Housing Units Numbers, 2000 – 2015

Hawai'i Public Housing Authority										
Housing Voucher Program Data										
Program		Element	2003	2006	2007	2011	2012	2013	2014	2015
Section 8 Housing Voucher Program	All Programs	Vouchers								
		Average Housing Assistance Payment		$535	$643	$1,444	$1,160	$980	$949	$960
		Average Tenant Payment		$0	$0	$0	$387	N/A	N/A	$321
	HUD Housing Choice Vouchers (S8)	Vouchers	3,058	1,958	1,864	1,773	1,379	2,000	1,921	1,816
		Average Housing Assistance Payment		$616.02	$729.46	$1,700	$1,299	$1,100	$1,063	$1,081
		Average Tenant Payment					$332			$335
	Elderly Disabled Vouchers	Vouchers					165	175	163	159
		Average Housing Assistance Payment					$1,144	$900	$896	$895
		Average Tenant Payment					$289			$256
	Affairs Supportive Housing	Vouchers	54			140	134	250	310	392
		Average Housing Assistance Payment				$800	$1,030	$750	$729	$743
		Average Tenant Payment					$298			$187
	State Rent Supplement Program	Vouchers	600	400	389	300	416	217	190	160
		Average Housing Assistance Payment	$160	$140.30	$230	$230	$749	$200	$200	$181
		Average Tenant Payment					$640			$558

Source: Hawai'i Public Housing Authority Annual Reports.

Table E-9. Adult Resident Care Home Numbers, 2016

Adult Resident Care Home (ARCH)												
	Statewide				Hawai'i County				Honolulu County			
	# of Facilities	Capacity	Vacancies	Vacancy as a % of Capacity	# of Facilities	Capacity	Vacancies	Vacancy as a % of Capacity	# of Facilities	Capacity	Vacancies	Vacancy as a % of Capacity
ARCH I	218	984	526	53%	25	99	26	26%	172	793	450	57%
ARCH II	4	109	85	78%	0				3	87	65	75%
Total ARCH I & II	222	1,093	611	56%	25	99	26	26%	175	880	515	59%
EXP	231	1,133	620	55%	26	126	57	45%	202	987	550	56%
ARCH II - EXP	31	440	263	60%	0				31	440	263	60%
Total EXP	262	1,573	883	56%	26	126	57	45%	233	1,427	813	57%
Total ARCH	484	2,666	1,494	56%	51	225	83	37%	408	2,307	1,328	58%

Adult Resident Care Home (ARCH)								
	Kaua'i County				Maui County			
	# of Facilities	Capacity	Vacancies	Vacancy as a % of Capacity	# of Facilities	Capacity	Vacancies	Vacancy as a % of Capacity
ARCH I	9	37	21	57%	12	55	29	53%
ARCH II	0				1	22	20	91%
Total ARCH I & II	9	37	21	57%	13	77	49	64%
EXP	1	10	3	30%	2	10	10	100%
ARCH II - EXP	0				0			
Total EXP	1	10	3	30%	2	10	10	100%
Total ARCH	10	47	24	51%	15	87	59	68%

ARCH I	Resident requires minimal assistance with activities of daily living (total capacity of 1 to 5 residents)
ARCH II	Same as ARCH I except total capacity is 6 or more residents
EXP	Resident requires 24 hours assistance with the normal activities of daily living and/or may require skilled nursing services (total capacity of 1 to 5 residents)
ARCH II - EXP	Same as EXP except total capacity is greater than 6 residents

Source: State of Hawai'i, Department of Health, Office of Health Care Insurance, State Licensing Section, Updated May 13. 2016.

Table E-10. Median Rent for SFD and MFD by Number of Bedrooms, County of Hawai'i, 2009-2015

Hawaii County	Median Rent										
	1BR	2BR	3BR	4 or more BR	Total SFD	1BR	2BR	3BR	4 or more BR	Total MFD	Total Units
2009-Q1	N/A	$605	$1,249	$1,810	$1,221	$912	$1,302	$2,112	$1,555	$1,470	$1,363
2009-Q2	$748	$788	$1,388	$1,823	$1,187	$1,001	$1,309	$1,785	$1,581	$1,419	$1,303
2009-Q3	$809	$902	$1,429	$1,813	$1,238	$1,014	$1,199	$1,600	$1,594	$1,352	$1,295
2009-Q4	$908	$1,016	$1,330	$1,810	$1,266	$981	$1,185	$1,428	$1,596	$1,297	$1,282
2010-Q1	$943	$1,074	$1,251	$1,948	$1,304	$900	$1,243	$1,385	$1,620	$1,287	$1,295
2010-Q2	$1,012	$1,103	$1,299	$1,905	$1,330	$855	$1,218	$1,415	$1,676	$1,291	$1,310
2010-Q3	$952	$1,188	$1,423	$1,737	$1,325	$813	$1,260	$1,548	$1,585	$1,301	$1,313
2010-Q4	$951	$1,203	$1,438	$1,833	$1,356	$794	$1,324	$1,570	$1,737	$1,356	$1,356
2011-Q1	$916	$1,248	$1,447	$2,003	$1,404	$851	$1,249	$1,437	$1,915	$1,363	$1,383
2011-Q2	$894	$1,240	$1,391	$1,981	$1,376	$902	$1,149	$1,520	$1,896	$1,367	$1,372
2011-Q3	$936	$1,288	$1,328	$2,028	$1,395	$965	$1,172	$1,490	$1,989	$1,404	$1,400
2011-Q4	$906	$1,140	$1,269	$1,887	$1,301	$870	$1,064	$1,326	$1,852	$1,278	$1,289
2012-Q1	$812	$1,009	$1,242	$1,703	$1,191	$849	$1,077	$1,238	$1,646	$1,203	$1,197
2012-Q2	$821	$1,018	$1,268	$1,594	$1,175	$812	$1,122	$1,219	$1,725	$1,220	$1,197
2012-Q3	$912	$1,130	$1,349	$1,690	$1,270	$818	$1,123	$1,292	$1,941	$1,294	$1,282
2012-Q4	$969	$1,276	$1,408	$1,771	$1,356	$901	$1,215	$1,425	$1,923	$1,366	$1,361
2013-Q1	$1,015	$1,357	$1,388	$1,922	$1,420	$939	$1,155	$1,543	$2,012	$1,412	$1,416
2013-Q2	$1,063	$1,311	$1,499	$1,862	$1,434	$918	$1,221	$1,488	$2,022	$1,412	$1,423
2013-Q3	$1,031	$1,153	$1,506	$1,850	$1,385	$888	$1,180	$1,457	$2,048	$1,393	$1,389
2013-Q4	$918	$1,109	$1,438	$1,876	$1,335	$956	$1,235	$1,519	$1,949	$1,415	$1,375
2014-Q1	$813	$1,005	$1,374	$1,869	$1,265	$976	$1,342	$1,438	$1,818	$1,393	$1,329
2014-Q2	$794	$1,091	$1,372	$1,827	$1,271	$1,074	$1,397	$1,576	$1,968	$1,504	$1,387
2014-Q3	$845	$1,227	$1,426	$1,905	$1,350	$1,145	$1,469	$1,613	$2,189	$1,604	$1,477
2014-Q4	$839	$1,297	$1,462	$1,981	$1,395	$1,083	$1,451	$1,760	$2,346	$1,660	$1,527
2015-Q1	$910	$1,380	$1,456	$2,098	$1,461	$1,126	$1,399	$1,685	$2,147	$1,589	$1,525
2015-Q2	$1,003	$1,366	$1,638	$2,131	$1,534	$1,139	$1,520	$1,718	$2,064	$1,610	$1,572
2015-Q3	$996	$1,304	$1,579	$2,076	$1,489	$1,134	$1,458	$1,634	$2,310	$1,634	$1,562
2015-Q4	$1,057	$1,297	$1,461	$2,088	$1,476	$1,212	$1,554	$1,771	$2,475	$1,753	$1,614

Source: Rent Range, 2009-2015.

Table E-11. Median Rent for SFD and MFD by Number of Bedrooms, City and County of Honolulu, 2009-2015

Honolulu County	Median Rent										
	1BR	2BR	3BR	4 or more BR	Total SFD	1BR	2BR	3BR	4 or more BR	Total MFD	Total Units
2009-Q1	$1,291	$1,725	$2,320	$2,688	$2,006	$1,346	$1,592	$2,044	$2,029	$1,753	$1,879
2009-Q2	$1,359	$1,704	$2,283	$2,647	$1,998	$1,272	$1,623	$1,985	$1,850	$1,682	$1,840
2009-Q3	$1,326	$1,722	$2,175	$2,702	$1,981	$1,254	$1,616	$2,043	$1,936	$1,712	$1,847
2009-Q4	$1,205	$1,683	$2,177	$2,714	$1,945	$1,235	$1,598	$2,014	$1,968	$1,704	$1,824
2010-Q1	$1,163	$1,661	$2,173	$2,619	$1,904	$1,211	$1,569	$1,989	$1,813	$1,645	$1,775
2010-Q2	$1,184	$1,705	$2,253	$2,611	$1,938	$1,215	$1,600	$2,011	$1,976	$1,700	$1,819
2010-Q3	$1,159	$1,614	$2,221	$2,435	$1,857	$1,166	$1,549	$2,055	$2,124	$1,723	$1,790
2010-Q4	$1,196	$1,630	$2,142	$2,333	$1,825	$1,155	$1,538	$1,992	$1,998	$1,671	$1,748
2011-Q1	$1,325	$1,604	$2,261	$2,482	$1,918	$1,165	$1,568	$2,099	$2,002	$1,709	$1,813
2011-Q2	$1,391	$1,680	$2,369	$2,742	$2,045	$1,267	$1,663	$2,095	$2,145	$1,793	$1,919
2011-Q3	$1,358	$1,665	$2,316	$2,759	$2,025	$1,256	$1,700	$2,095	$2,411	$1,866	$1,945
2011-Q4	$1,367	$1,634	$2,208	$2,782	$1,998	$1,287	$1,651	$2,103	$2,414	$1,864	$1,931
2012-Q1	$1,404	$1,651	$2,234	$2,798	$2,022	$1,285	$1,679	$2,135	$2,426	$1,881	$1,951
2012-Q2	$1,315	$1,731	$2,273	$2,883	$2,051	$1,317	$1,740	$2,247	$2,549	$1,963	$2,007
2012-Q3	$1,367	$1,845	$2,331	$3,001	$2,136	$1,330	$1,730	$2,147	$2,393	$1,900	$2,018
2012-Q4	$1,364	$1,767	$2,282	$2,943	$2,089	$1,332	$1,700	$2,184	$2,296	$1,878	$1,984
2013-Q1	$1,403	$1,804	$2,333	$2,957	$2,124	$1,336	$1,718	$2,259	$2,412	$1,931	$2,028
2013-Q2	$1,231	$1,850	$2,387	$3,005	$2,118	$1,366	$1,791	$2,281	$2,480	$1,980	$2,049
2013-Q3	$1,194	$1,722	$2,232	$2,930	$2,019	$1,298	$1,661	$2,192	$2,454	$1,901	$1,960
2013-Q4	$1,085	$1,582	$2,122	$2,850	$1,910	$1,290	$1,619	$2,136	$2,312	$1,839	$1,875
2014-Q1	$1,082	$1,639	$2,156	$2,877	$1,938	$1,347	$1,702	$2,251	$2,470	$1,943	$1,940
2014-Q2	$1,186	$1,722	$2,353	$2,928	$2,047	$1,388	$1,775	$2,368	$2,585	$2,029	$2,038
2014-Q3	$1,281	$1,806	$2,530	$3,163	$2,195	$1,428	$1,804	$2,484	$2,685	$2,100	$2,148
2014-Q4	$1,307	$1,826	$2,546	$3,176	$2,214	$1,436	$1,813	$2,448	$2,791	$2,122	$2,168
2015-Q1	$1,355	$1,819	$2,538	$3,223	$2,234	$1,384	$1,811	$2,384	$2,913	$2,123	$2,178
2015-Q2	$1,394	$1,951	$2,642	$3,453	$2,360	$1,437	$1,903	$2,521	$3,131	$2,248	$2,304
2015-Q3	$1,432	$1,904	$2,672	$3,338	$2,336	$1,525	$1,966	$2,604	$3,081	$2,294	$2,315
2015-Q4	$1,408	$1,854	$2,628	$3,238	$2,282	$1,502	$1,908	$2,579	$3,031	$2,255	$2,268

Source: Rent Range, 2009-2015.

Table E-12. Median Rent for SFD and MFD by Number of Bedrooms, County of Kauaʻi, 2009-2015

Kauaʻi County	Median Rent										
	1BR	2BR	3BR	4 or more BR	Total SFD	1BR	2BR	3BR	4 or more BR	Total MFD	Total Units
2009-Q1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2009-Q2	N/A	N/A	$2,484	N/A	$2,484	$902	$1,503	$1,703	N/A	$1,369	$1,815
2009-Q3	N/A	$1,485	$2,268	$1,717	$1,823	$948	$1,447	$1,755	N/A	$1,383	$1,603
2009-Q4	N/A	$1,500	$2,082	$1,818	$1,800	$1,064	$1,466	$1,821	N/A	$1,450	$1,625
2010-Q1	N/A	$1,510	$2,087	$1,841	$1,813	$1,161	$1,485	$1,930	N/A	$1,525	$1,669
2010-Q2	$1,194	$1,412	$1,878	$1,773	$1,564	$1,068	$1,486	$1,837	N/A	$1,464	$1,521
2010-Q3	$1,246	$1,372	$1,669	$1,702	$1,497	$1,000	$1,356	$1,742	N/A	$1,366	$1,441
2010-Q4	$1,274	$1,400	$1,542	$1,642	$1,465	$1,032	$1,271	$1,753	N/A	$1,352	$1,416
2011-Q1	$1,275	$1,443	$1,632	$1,657	$1,502	$1,105	$1,336	$1,771	N/A	$1,404	$1,460
2011-Q2	$1,329	$1,405	$1,792	$1,788	$1,579	$1,158	$1,387	$1,787	N/A	$1,444	$1,521
2011-Q3	$1,330	$1,526	$1,720	$1,932	$1,627	$1,239	$1,417	$1,723	$1,925	$1,576	$1,602
2011-Q4	$1,254	$1,656	$1,744	$2,054	$1,677	$1,134	$1,377	$1,710	$1,807	$1,507	$1,592
2012-Q1	$1,141	$1,540	$1,687	$2,152	$1,630	$1,163	$1,455	$1,669	$1,853	$1,535	$1,582
2012-Q2	$1,080	$1,641	$1,695	$2,138	$1,638	$1,135	$1,502	$1,729	$1,906	$1,568	$1,603
2012-Q3	$1,040	$1,635	$1,753	$1,945	$1,593	$1,085	$1,353	$1,851	$1,809	$1,525	$1,559
2012-Q4	$1,058	$1,491	$1,764	$1,765	$1,520	$1,075	$1,244	$1,732	$1,843	$1,473	$1,497
2013-Q1	$1,130	$1,375	$1,807	$1,834	$1,537	$1,169	$1,355	$1,781	$1,760	$1,516	$1,526
2013-Q2	$1,116	$1,400	$2,003	$2,031	$1,638	$1,152	$1,473	$1,971	$1,948	$1,636	$1,637
2013-Q3	$1,206	$1,548	$2,237	$2,242	$1,808	$1,135	$1,589	$1,986	$2,140	$1,713	$1,760
2013-Q4	$1,261	$1,479	$2,308	$2,153	$1,800	$1,168	$1,590	$1,880	$2,244	$1,721	$1,760
2014-Q1	$1,173	$1,391	$2,049	$2,058	$1,668	$1,172	$1,513	$1,741	$2,071	$1,624	$1,646
2014-Q2	$1,173	$1,491	$1,868	$2,188	$1,680	$1,214	$1,565	$1,868	$2,223	$1,718	$1,699
2014-Q3	$1,237	$1,595	$1,967	$2,373	$1,793	$1,193	$1,660	$2,079	$2,420	$1,838	$1,815
2014-Q4	$1,195	$1,694	$1,853	$2,445	$1,797	$1,185	$1,640	$2,041	$2,335	$1,800	$1,799
2015-Q1	$1,170	$1,748	$1,760	$2,557	$1,809	$1,096	$1,552	$1,949	$2,244	$1,710	$1,759
2015-Q2	$1,130	$1,638	$1,751	$2,536	$1,764	$1,083	$1,464	$2,038	$2,167	$1,688	$1,726
2015-Q3	$1,181	$1,594	$1,850	$2,616	$1,810	$1,184	$1,555	$2,116	$2,049	$1,726	$1,768
2015-Q4	$1,286	$1,548	$2,006	$2,586	$1,856	$1,242	$1,675	$2,013	$2,152	$1,770	$1,813

Source: Rent Range, 2009-2015.

Table E-13. Median Rent for SFD and MFD by Number of Bedrooms, County of Maui, 2009-2015

Maui county	Median Rent										
	1BR	2BR	3BR	4 or more BR	Total SFD	1BR	2BR	3BR	4 or more BR	Total MFD	Total Units
2009-Q1	$783	$1,612	$2,399	$3,154	$1,987	$1,171	$1,534	$2,520	N/A	$1,742	$1,882
2009-Q2	$876	$1,433	$2,005	$2,712	$1,756	$1,229	$1,630	$2,207	$1,898	$1,741	$1,749
2009-Q3	$1,003	$1,481	$2,052	$2,870	$1,852	$1,187	$1,515	$2,021	$1,838	$1,640	$1,746
2009-Q4	$1,002	$1,458	$2,027	$2,840	$1,832	$1,229	$1,441	$1,906	$1,671	$1,562	$1,697
2010-Q1	$990	$1,494	$1,966	$2,811	$1,815	$1,123	$1,375	$1,786	$1,765	$1,512	$1,664
2010-Q2	$966	$1,553	$1,918	$2,643	$1,770	$1,065	$1,277	$1,724	$1,984	$1,513	$1,641
2010-Q3	$939	$1,490	$1,926	$2,509	$1,716	$999	$1,297	$1,787	$1,981	$1,516	$1,616
2010-Q4	$926	$1,386	$1,858	$2,531	$1,675	$957	$1,326	$1,900	$2,139	$1,581	$1,628
2011-Q1	$990	$1,362	$1,982	$2,591	$1,731	$1,033	$1,451	$1,911	$2,198	$1,648	$1,690
2011-Q2	$1,114	$1,532	$2,017	$2,498	$1,790	$1,080	$1,358	$1,975	$1,969	$1,595	$1,693
2011-Q3	$1,187	$1,639	$1,983	$2,426	$1,809	$1,084	$1,358	$2,018	$1,887	$1,587	$1,698
2011-Q4	$1,074	$1,630	$1,817	$2,376	$1,724	$1,049	$1,297	$1,847	$2,122	$1,579	$1,651
2012-Q1	$992	$1,553	$1,885	$2,481	$1,728	$1,108	$1,401	$1,980	$2,344	$1,708	$1,718
2012-Q2	$1,061	$1,474	$1,983	$2,676	$1,798	$1,163	$1,438	$2,048	$2,428	$1,769	$1,784
2012-Q3	$1,010	$1,391	$1,922	$2,684	$1,752	$1,106	$1,499	$1,981	$2,201	$1,697	$1,724
2012-Q4	$1,029	$1,460	$1,778	$2,503	$1,692	$1,132	$1,444	$1,803	$2,053	$1,608	$1,650
2013-Q1	$1,134	$1,614	$1,798	$2,411	$1,739	$1,141	$1,453	$1,726	$2,018	$1,585	$1,662
2013-Q2	$1,108	$1,536	$1,977	$2,649	$1,818	$1,188	$1,650	$1,989	$2,336	$1,791	$1,804
2013-Q3	$1,149	$1,551	$1,944	$2,594	$1,809	$1,182	$1,641	$2,159	$2,644	$1,906	$1,858
2013-Q4	$1,154	$1,464	$1,767	$2,565	$1,738	$1,124	$1,575	$2,211	$2,765	$1,919	$1,828
2014-Q1	$1,136	$1,455	$1,637	$2,436	$1,666	$1,142	$1,571	$2,197	$2,521	$1,858	$1,762
2014-Q2	$1,091	$1,511	$1,582	$2,454	$1,659	$1,230	$1,710	$2,333	$2,572	$1,961	$1,810
2014-Q3	$1,126	$1,500	$1,744	$2,554	$1,731	$1,270	$1,667	$2,373	$2,763	$2,019	$1,875
2014-Q4	$1,210	$1,587	$1,908	$2,431	$1,784	$1,203	$1,599	$2,335	$2,875	$2,003	$1,893
2015-Q1	$1,171	$1,609	$2,019	$2,380	$1,795	$1,227	$1,615	$2,174	$2,860	$1,969	$1,882
2015-Q2	$1,104	$1,481	$2,160	$2,465	$1,802	$1,205	$1,624	$2,148	$2,798	$1,944	$1,873
2015-Q3	$1,141	$1,516	$2,220	$2,713	$1,897	$1,286	$1,665	$2,353	$2,774	$2,020	$1,959
2015-Q4	$1,179	$1,438	$2,139	$2,853	$1,902	$1,209	$1,648	$2,334	$2,749	$1,985	$1,944

Source: Rent Range, 2009-2015.

Table E-14. Median Sales Price for Single-Family Dwellings by County, 2000-2014
[In thousand dollars, rounded to the nearest thousand]

Year	County				State
	Hawai'i	Honolulu	Kauai	Maui	
2000	175	298	255	275	260
2001	188	300	287	298	269
2002	194	335	328	375	310
2003	235	385	366	440	360
2004	290	465	499	560	440
2005	385	590	639	678	560
2006	421	630	675	690	599
2007	395	645	650	630	595
2008	345	625	615	575	560
2009	278	580	470	498	498
2010	260	600	498	460	488
2011	246	579	455	432	470
2012	260	625	459	470	500
2013	295	650	529	530	544
2014	315	675	533	570	575

Source: *The State of Hawai'i Data Book 2014.*

Table E-15. Median Sale Price for Condominium Units by County, 2000-2014
[In thousand dollars]

Year	County				State
	Hawai'i	Honolulu	Kauai	Maui	
2000	135	125	150	195	140
2001	140	132	162	197	145
2002	166	153	210	207	165
2003	185	175	287	241	185
2004	275	208	375	310	230
2005	370	269	435	385	299
2006	426	310	405	510	339
2007	395	325	565	550	350
2008	370	325	545	549	348
2009	277	305	330	450	319
2010	260	305	270	378	310
2011	213	300	237	310	290
2012	258	315	290	358	318
2013	250	332	310	374	333
2014	280	350	346	415	351

Source: *The State of Hawai'i Data Book 2014.*

APPENDIX F: CONSOLIDATED PLAN HOUSING GOALS

Table F-1. Five-Year Consolidated Plan Housing Goals: 2015 - 2019

	Support	Build/Rehab	Financial Assistance	Other Assistance
Hawai'i, Kaua'i and Maui County[114]	Home Ownership	Construct/rehab for sale housing (1 housing unit) Self-help affordable housing (62 housing units)	Financial assistance to homebuyer (1 household)	
	Low Income Rentals	Construct new rental units (11 housing units) Rehab rental unit (1 housing unit)	Tenant-based Rental Assistance (TBRA) (100 Households)	
	Homeless		Rapid Rehousing financial assistance (275 households) Prevent homelessness financial assistance (150 persons)	Emergency shelter operations (8,800 persons assisted) Transitioning homeless to permanent housing (1,830 persons) Rapid Rehousing relocation & stabilization services (400 households) Prevent homelessness services (150 persons)
	Special Needs Housing	Construct new special needs rental units (25 housing units) Rehab special needs rental units (3 housing units) Rehab transitional housing units (33 housing units)	HOPWA tenant rental assistance (75 households)	Emergency shelter operations to house victims of DV (3,100 persons assisted) HOPWA supportive services (2,400 persons assisted)
C&C Honolulu[115]	Home Ownership		Financial assistance to homebuyers (50 households) Housing rehab assistance (50 housing units)	
	Low Income Rentals	Housing development (400 households)		LMI services (50 persons)
	Homeless	Housing First Housing (250 households) Renovate homeless shelters (5 shelters)	Homeless prevention financial assistance (30 persons)	Housing First Services (250 households) Homeless Services (3,750 persons)
	Special Needs Housing			Senior Services (50 persons) Youth Services (50 persons) Domestic Violence Services (50 persons)
Statewide	Home Ownership	1 Affordable for-sale unit 62 self-help affordable housing units	51 financial assistance to homebuyers 50 housing rehab assistance	
	Low Income Rentals	12 rental housing units 400 Housing development	100 Tenant-based Rental Assistance (TBRA) Households	50 persons LMI services
	Homeless	250 households Housing First 5 homeless shelters renovated	275 Rapid Rehousing households 180 Prevent homeless households	11,900 persons Emergency shelter operations 3,750 Homeless services 1,830 persons and 650 households Transitioning to permanent housing services
	Special Needs Housing		75 HOPWA TBRA households	2,550 persons Other services

[114] Based on the State of Hawai'i Consolidated Plan for Program Years 2015 through 2019 (primarily focusing on Hawai'i, Kaua'i and Maui Counties)

[115] Based on City & County of Honolulu Consolidated Plan for Program Years 2015 through 2019

Table F-2. State and Counties Consolidated Plan 2015 Annual Goals

	Support	Build/Rehab	Financial Assistance	Other Assistance
Hawai'i, Kaua'i and Maui County[116]	Home Ownership	Construct new or acquire/rehab of existing affordable for-sale housing (6 housing units) Self-help housing (8 housing units)	Down payment/closing cost assistance and gap loans through homebuyer loan program (1 household)	
	Low Income Rentals	Construct/rehab affordable rental housing (10 housing units)	Tenant- based rental assistance (20 households)	
	Homeless	Construct/rehab new transitional housing for homeless (32 housing units)	Rapid Rehousing – financial assistance (580 persons) Homeless Prevention – financial assistance to persons/families at risk of homelessness (30 persons)	ES Operations (1,655 persons) Transitioning Homeless to PH (580 persons) Rapid Rehousing – Housing relocation & stabilization services (78 Households) Homeless Prevention – relocation & stabilizations services (30 persons)
	Special Needs Housing	Construct/rehab affordable rentals for special needs population – (36 housing units)	HOPWA – financial assistance through tenant based rental assistance (15 households)	DV ES Operations (620 persons) HOPWA Supportive Services (516 persons)
C&C Honolulu[117]	Home Ownership		Financial assistance to LMI homebuyers (10 housing units) Loan assistance for rehab existing homes (17 housing units)	
	Low Income Rentals	Construct/rehab affordable and special needs rental housing (52 housing units)	Services to at-risk of homelessness (1,333 persons) Tenant Based Rental Assistance homeless prevention (497 persons)	Services to benefit LMI (185 persons)
	Homeless	Acquire/rehab building or units to support Housing First	Housing First Tenant Based Rental Assistance (50 households)	Homeless Services (2,348 persons)
	Special Needs Housing		Tenant Based Rental Assistance (155 households)	
Statewide	Home Ownership	6 affordable houses 8 self help	1 housing unit down payment/closing cost assistance 10 housing units financial assistance to LMI 17 housing units loan assistance to rehab existing homes.	
	Low Income Rentals	88 affordable rentals	517 persons tenant based rental assistance	Services (185 persons)
	Homeless	32 transitional housing	835 persons Housing First/Rapid Rehousing Rental financial assistance 3,006 persons Transition services to permanent housing including Rapid Rehousing	4,613 persons and 78 households Homeless Services
	Special Needs Housing	36 affordable rentals 32 transitional housing		DV ES Operations (620 persons) HOPWA Supportive Services (516 persons)

[116] Based on the State of Hawai'i Consolidated Plan for Program Years 2015 through 2019 (primarily focusing on Hawai'i, Kaua'i and Maui Counties)

[117] Based on City & County of Honolulu Consolidated Plan for Program Years 2015 through 2019

APPENDIX G: GLOSSARY

Adequately Housed: Households that are not classified as at-risk for homelessness or hidden homeless.

50% Hawaiian: An individual is 50 percent Hawaiian if they claimed that status in the Housing Demand Survey. Only Respondents were asked to self-report ethnic status. A household is classified as 50 percent Hawaiian if the household includes at least one adult member who is 50 percent or more Hawaiian. Respondents were asked if there were other members of the household who were 50 percent or more Hawaiian. 50 percent Hawaiian households may or may not be DHHL beneficiaries (lessees or applicants).

ADLs: Activities of Daily Living, which include assistance with eating, bathing, getting dressed, getting in or out of bed, or getting to the toilet.

Acceptable Bathrooms: The number of bathrooms that are absolutely required in a new unit. Typically, an acceptable bathroom is a more accurate measure of housing characteristic for planning than first-choice preferred bedrooms.

Acceptable Bedrooms: The number of bedrooms that are absolutely required in a new unit. Typically, an acceptable bedroom is a more accurate measure of housing characteristic for planning than first-choice preferred bedrooms.

Affordable Housing: refers to the generalized concept of housing that residents have sufficient income and financial resources to be able to purchase or rent.

In the U.S., commonly accepted guideline for housing affordability is a housing cost that does not exceed 30% of a household's gross income. Housing costs considered in this guideline generally include taxes and insurance for owners, and usually include utility costs. When the monthly carrying costs of a home exceed 30–35 percent of household income, then the housing is considered unaffordable for that household.

Affordable Housing Cost: The average dollar amount that a respondent reported they would be able to pay per month for a new housing unit.

Apartment: Refers to apartment building that contains residential suites in which each individual unit is leased to different occupants.

Applicant Only: Households in which at least one adult member has applied for, but has not yet been awarded, land from the Department of Hawaiian Home Lands.

At Risk for Homelessness: Households in which members would become homeless is less than three months if they suddenly lost their primary source of income. Also called “precariously housed,” these people are three monthly paychecks away from homelessness.

Available Down Payment: The amount of money available to be used as a cash down payment for new housing.

Churn Rate: For any given period of time, the number of participants who discontinue their use of a service divided by the average number of total participants. Churn rate provides insight into the growth or decline of the subscriber base, as well as the average length of participation in the service.

COL %: Represents the percentage of the column total for an individual cell in a table [Also referred to as **Count Percent** or vertical percent].

Condominium/Condo: An apartment building with five units or more in which each owner owns a unit and holds a joint ownership in common areas with other owners in the building.

Contract Type: Refers to the two major ownership contracts: leasehold and fee simple.

Count Percent: [See **Col %**].

Crowding Ratio: The average number of household members per bedroom per household.

Crowding Ratio by Bedrooms: Number of persons per bedroom. Does not include any rooms other than bedrooms. Households with more than 1.01 persons per bedroom are considered overcrowded [See also **Overcrowded**].

Crowding Ratio by Rooms: Number of persons per room. Includes all rooms other than closets, hallways, utility rooms, foyers, and lanais.

DHHL: Department of Hawaiian Home Lands. This state agency has been responsible for administering the land trust that in 1921 established about 200,000 acres of land for homesteading by Native Hawaiians. For more information visit: http://www.Hawai'i.gov/dhhl/.

Doubled-up: Housing units that are occupied by two or more families or groups of persons who are not related by birth, marriage, or adoption.

Elderly: A person 62 years of age or older.

Elderly Alone: Single member households, member is 62 years of age or older.

Elderly Couple: Two-member households, male and female, at least one or which is 62 years of age or older.

Emancipated foster youth: Youth who are aging out of the foster care system.

Equity Gap Funding: The amount of money needed to cover development costs for new or existing affordable rental or mixed-use project or projects for economic development activities directly related to affordable housing. These funds are intended to cover the difference between the projected

Exiting offender: Inmates released from the prison system.

Fee Simple: A fee simple estate is the least limited interest and the most complete and absolute ownership inland. It is of indefinite duration, freely transferable and inheritable. The phrase "fee simple absolute" came about because the estate is of potentially infinite duration (thus "fee"); there are no limitations on its inheritability (thus "simple"); and it is indefeasible and cannot be divested (thus "absolute").

Frail elderly: Elderly afflicted with physical or mental disabilities that may interfere with the ability to perform activities of daily living independently (i.e., bathing, dressing, toileting, and meal preparation).

Group quarters: A place where people live or stay, in a group living arrangement, that is owned or managed by an entity or organization providing housing and/or services for the residents. This is not a typical household-type living arrangement. Services may include custodial or medical care as well as other types of assistance, and residency is commonly restricted to those receiving these services. People living in group quarters are usually not related to each other. Group quarters include such places as college residence halls, residential treatment centers, skilled nursing facilities,, group homes, military barracks, correctional facilities, and workers' dormitories.

Guamanian or Chamorro: Ethnicity of persons from Guam or the Mariana Islands region.

HH: Household, person residing in a housing unit for five or more months of the year.

Hidden Homeless: Households in which more than one family share accommodations. These households include families that are doubled up (two or more families or groups of persons who are related by birth, marriage or adoption) and those that are sharing (two or more families or groups whose members are not related by birth, marriage, or adoption).

Homestead Land: Land entrusted by the Hawaiian Homes Commission Act for homesteading by Native Hawaiians. This trust is current administered by the Department of Hawaiian Homelands

Honolulu PUC: Honolulu Primary Urban Center, census tracts 4.01 thru 72, 75.02, and 75.06. For information on Census Tracts visit: http://factfinder.census.gov/home/saff/main.html?_lang=en

HUD: U.S. Department of Housing and Urban Development. HUD's mission is to increase home ownership, support community development, and increase access to affordable housing free from discrimination. To fulfill this mission, HUD will embrace high standards of ethics, management and accountability and forge new partnerships -- particularly with faith-based and community organizations that leverage resources and improve HUD's ability to be effective on the community level. For more information visit: http://www.hud.gov/

HUD Income Guidelines: [See **HUD Income Limits**]

HUD Income Limits: Calculates income as percentage of the HUD median income for a household of a given size in a given geographic area. For information on the HUD median income and HUD income limits visit: http://www.huduser.org/datasets/il/il06/BRIEFING-MATERIALs.pdf

HUD Median Income: The median income for a household of a given size in a specific geographic area. For detailed information on the HUD median income and HUD income limits visit: http://www.huduser.org/datasets/il/il06/BRIEFING-MATERIALs.pdf

IADLs: Instrumental Activities for Daily Living which include preparing meals, taking medications, making phone calls or managing money.

Imputation: A method of replacing missing values for specific variables in survey work. SMS uses a multivariate regression technique to replace missing values with the best estimate of the value for each case, based on reported values of several other related variables. For the Housing Demand Survey, imputation was applied to age and household income.

Income: Self-reported household income for all sources, for all employed persons in the household, estimated before taxes, for the calendar year preceding the survey (2005). [See also **Imputation**].

Income as a % of HUD Median: [See **HUD Income Limits**].

Income Per Household Member: Household income divided by the number of persons living in the household.

Intention to Move: The desire to seek a new housing unit at some time in the future. Includes the desire to seek a new ownership units and the desire to seek a new rental unit.

Leasehold: A less than freehold estate by which a tenant possesses real property. In a lease situation, the tenant possesses a leasehold and the landlord possesses the reversion estate; i.e. when the lease terminates, the property will revert to the landlord.

Lessee and Applicant: A classification of households used in the Native Hawaiian tabulations and reports referring to a households in which at least one member is a DHHL lessee and at least one is an applicant for a land award from DHHL.

Lessee Only: A households occupied by virtue of a Department of Hawaiian Home Lands lease, and having no adult member who is on a DHHL awards applicant list.

Military Housing Privatization Initiative:

In order to house active duty military personnel and their families, the Department of Defense (DoD) has traditionally relied on two methods. In locations where the local housing supply was adequate, the DoD provided military members with a stipend, the Basic Allowance for Housing (BAH), to defray the cost of residential housing near military installations. For those locations where local housing was extremely expensive or unavailable, quarters were built within the military installations to house military personnel and their dependents.

In 1996, a third option was created through the Military Housing Privatization Initiative (MHPI). Because many of the military family housing properties built during the 1950s and 1960s were old and deteriorating, the DoD partnered with private developers to take on the projects since they had the experience and expertise to do the job faster, cheaper, and better. Under the MHPI, private developers renovate or replace old, substandard military housing and, in some instances, build additional units. The developers then become the owners and managers of those properties and the landlords for the military families in those homes. Most important, military families get updated, repaired or newly constructed homes that will be maintained for the next fifty years.

The MHPI program has made on-base privatized housing part of the local competitive housing market. Privatized housing operates similarly to any other private rental property business and the resulting competition can impact the local rental market and housing demand.

MFD: Multi-Family Dwelling. This includes townhouses, apartments, duplexes, and multiplexes.

Multi-Generation Household With Elderly Member: Households with at least two generations present and at least one member 62 years of age or older.

Non-Hawaiian: A non-Hawaiian individual is a person that reports no Hawaiian ancestry.

O‘ahu SF Ads: The number of advertisements for single-family homes in the City & County of Honolulu.

O‘ahu SF Rents: The number of advertisements for single-family homes for rent in the City & County of Honolulu.

Occupy without Payment: A type of tenancy in which the respondent occupies a housing units without payment of cash rent. Includes persons living in rent-free public units, those living in private sector, family-owned units, property managers occupying units in exchange for services, clerics living in church owner units, military dependents in on-base units, etc. Does not include individuals who have paid off their mortgage.

Other Hawaiian: Other Hawaiian individuals are those who claimed some Hawaiian ethnicity in the survey, but were not 50 percent or more Hawaiian, and therefore were not DHHL beneficiaries. Other Hawaiian households are households that include no individual with more than 50 percent Hawaiian ancestry, and include at least one individual who is less than 50 percent Hawaiian.

Other Vacant: This category includes units held for settlement of an estate, units held for occupancy by a caretaker or janitor, and units held for personal reasons of the owner.

Overcrowded: A household with more than 1.01 persons per room.

Permanent Supportive Housing: Housing with indefinite leasing or rental with appropriate services for persons with higher acuity.

Persons with Alcohol or Other Drug Addictions: Persons whose impairment or disability is due to alcoholism or drug addiction.

Persons with Developmental Disability: Persons with a severe, chronic disability that: (1) is attributable to a mental or physical impairment or combination of mental and physical impairments; (2) is manifested before the individual attains age 22; (3) is likely to continue indefinitely; (4) results in substantial functional limitations in three or more of the following areas of major life activity: self-care; receptive and expressive language; learning; mobility; self-direction; capacity for independent living; economic self-sufficiency; and (5) reflects the individual's need for a combination and sequence of special interdisciplinary, or generic services, individualized supports, or other forms of assistance that are of lifelong or extended duration and are individually planned and coordinated. An individual from birth to age nine, inclusive, who has a substantial developmental delay or specific congenital or acquired condition, may be considered to have a developmental disability without meeting three or more of the criteria described above, if the individual, without services and supports, has a high probability of meeting those criteria later in life.

Persons with Disabilities: Any person who has a physical or mental impairment that substantially limits one or more major life activities; has a record of such impairment; or is regarded as having such impairment. In general, a physical or mental impairment includes hearing, mobility and visual impairments, chronic alcoholism, chronic mental illness, AIDS, AIDS Related Complex, and mental retardation that substantially limit one or more major life activities. Major life activities include walking, talking, hearing, seeing, breathing, learning, performing manual tasks, and caring for oneself.

Persons with HIV/AIDS: A person with the disease of acquired immunodeficiency syndrome or related diseases, or any conditions arising from the etiologic agent for acquired immunodeficiency syndrome, including infection with the human immunodeficiency virus (HIV).

Persons with severe mental illness: Persons with a severe and persistent mental or emotional impairment that seriously limits his or her ability to live independently, and which impairment could be improved by more suitable housing conditions.

PLANNED HOUSING UNITS: Planned housing units are those that are registered or on record at government agencies as being scheduled for completion by a specified date. The official list of such units usually includes permitted or confirmed units, public and private sector. A major interest in planned units relates to their value in estimating future housing supply, often but not always including its relationship to housing demand.

Potential Movers: Households in which the Housing Demand Survey respondent reported an interested in moving to a new unit in the future.

Potential Owners: Households in which the Housing Demand Survey respondent reported intent to own their next home.

Potential Renters: Households in which the Housing Demand Survey respondent reported intent to rent their next unit.

Precariously Housed: [See **At Risk for Homelessness**]

Preferred Bathrooms: The number of bathrooms desired in a new unit.

Preferred Bedrooms: The number of bedrooms desired in a new unit.

Seniors: See **Elderly**

Shelter to Income Ratio: The percentage of total monthly household income that is used to pay for shelter costs (rent or mortgage payments). In this study, a shelter-to-income ratio in excess of .30 is considered to indicate some level of financial disadvantages. A shelter-to-income ratio in excess of .40 indicates severe financial disadvantage.

Short-term Rental: A rental period for a residential unit lasting 30 days or less; also called transient rentals.

Single Family Dwelling (SFD): A single-family detached dwelling unit

Sustainable Housing: Housing that designed to be affordable in perpetuity. Affordability is defined as having a sales or rental price below market values – usually at or below the price affordable to a family with a household income at the median or at specific HUD income qualification levels. Perpetuity is accomplished through limited equity arrangements incorporated in the deed or lease agreement. [See also: **Sustainable Lease**]

Sustainable Lease: A housing contract that does not include ownership of the land. The perpetuity is accomplished through a lease agreement. Sustainable lease contracts may be used to eliminate high down payments, can allow property to be passed on to heirs, require no ground rent, and typically have a lease term greater than 60 years. [See also **Leasehold** and **Fee Simple**]

Tenancy: There are three types of tenancy: own, rent, and occupy without payment

Townhouse: Side by side housing units that do not meet the definition of single-family dwellings

Unit Condition: Self-reported assessment of the overall condition of the current unit, rated on a scale from excellent to poor.

Unit Type: There several different types of units reported in the Housing Demand Survey including: single-family detached units, duplexes, multiplexes, townhouses, condominiums, and apartments. We note that condominium in an ownership regime and not a unit type. Since nearly all condominiums in Hawai‘i are multifamily units, this classification allows a distinction between condominium apartments and standard apartments in multi-family buildings.

Victims of Domestic Violence: Victims of felony or misdemeanor crimes of violence committed by a current or former spouse of the victim, by a person with whom the victim shares a child in common, by a person who is cohabitating with or has cohabitated with the victim as a spouse, by a person similarly situated to a spouse of the victim under the domestic or family violence laws of the jurisdiction receiving grant monies, or by any other person against an adult or youth victim who is protected from that person's acts under the domestic, violence or family violence laws of the jurisdiction.

APPENDIX H: HAWAIʻI STATE PLANNING ACT (SELECTED SECTIONS)

All state agencies, including the Office of Planning, are guided by two statewide planning documents (1) the Hawaiʻi State Planning Act, which is a broad policy document that sets the table for all activities, programs, and decisions made by local and state agencies; and (2) the New Day Comprehensive Plan, which outlines the Administration's priorities.

The Hawaiʻi State Planning Act was signed into law in 1978 to "improve the planning process in this state, to increase the effectiveness of government and private actions, to improve coordination among different agencies and levels of government, to provide for wise use of Hawaiʻi's resources and to guide the future development of the state" (HRS § 226-1). The Act is codified under HRS Chapter 226.

The Act sets forth the Hawaiʻi state plan, which is a long-range comprehensive plan that includes an overall theme, goals, objectives, policies, priority guidelines, and implementation mechanisms. The Hawaiʻi state plan:

- Serves as a guide for the future long-range development of the state
- Identifies the goals, objectives, policies, and priorities for the state
- Provides a basis for determining priorities and allocating limited resources, such as public funds, services, human resources, land, energy, water, and other resources
- Improves coordination of federal, state, and county plans, policies, programs, projects, and regulatory activities
- Establishes a system for plan formulation and program coordination to provide for an integration of all major state, and county activities

§226-102 Overall direction. The State shall strive to improve the quality of life for Hawaiʻi's present and future population through the pursuit of desirable courses of action in five major areas of statewide concern that merit priority attention: economic development, population growth and land resource management, affordable housing, crime and criminal justice, and quality education. [L 1978, c 100, pt of §2; am L 1986, c 276, §29]

§226-104 Population growth and land resources priority guidelines. (a) Priority guidelines to effect desired statewide growth and distribution:
(5) Explore the possibility of making available urban land, low-interest loans, and housing subsidies to encourage the provision of housing to support selective economic and population growth on the neighbor islands.

§226-106 Affordable housing. Priority guidelines for the provision of affordable housing:
(1) Seek to use marginal or nonessential agricultural land and public land to meet housing needs of low- and moderate-income and gap-group households.
(2) Encourage the use of alternative construction and development methods as a means of reducing production costs.
(3) Improve information and analysis relative to land availability and suitability for housing.
(4) Create incentives for development which would increase home ownership and rental opportunities for Hawaiʻi's low- and moderate-income households, gap group households, and residents with special needs.
(5) Encourage continued support for government or private housing programs that provide low interest mortgages to Hawaiʻi's people for the purchase of initial owner- occupied housing.
(6) Encourage public and private sector cooperation in the development of rental housing alternatives.

(7) Encourage improved coordination between various agencies and levels of government to deal with housing policies and regulations.
(8) Give higher priority to the provision of quality housing that is affordable for Hawai‘i's residents and less priority to development of housing intended primarily for individuals outside of Hawai‘i. [L 1986, c 276, §33; am L 1989, c 250, §3]

APPENDIX I: BIBLIOGRAPHY

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